

REPORT
OF
METROPOLITAN PARK COMMISSION
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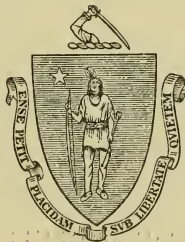




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REPORT
OF THE
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BOARD OF METROPOLITAN PARK
COMMISSIONERS.

DECEMBER, 1910.



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OFFICERS.

Commissioners.

WILLIAM B. DE LAS CASAS, *Chairman.*

EDWIN U. CURTIS.

DAVID N. SKILLINGS.

ELLERTON P. WHITNEY.

EVERETT C. BENTON.

Landscape Architects.

Advisory.

OLMSTED BROTHERS.

Engineer.

JOHN R. RABLIN.

Law and Claims.

GEORGE LYMAN ROGERS.

Secretary.

JOHN WOODBURY.

OFFICES, 14 Beacon Street, Boston, Mass.

The Commonwealth of Massachusetts.

REPORT.

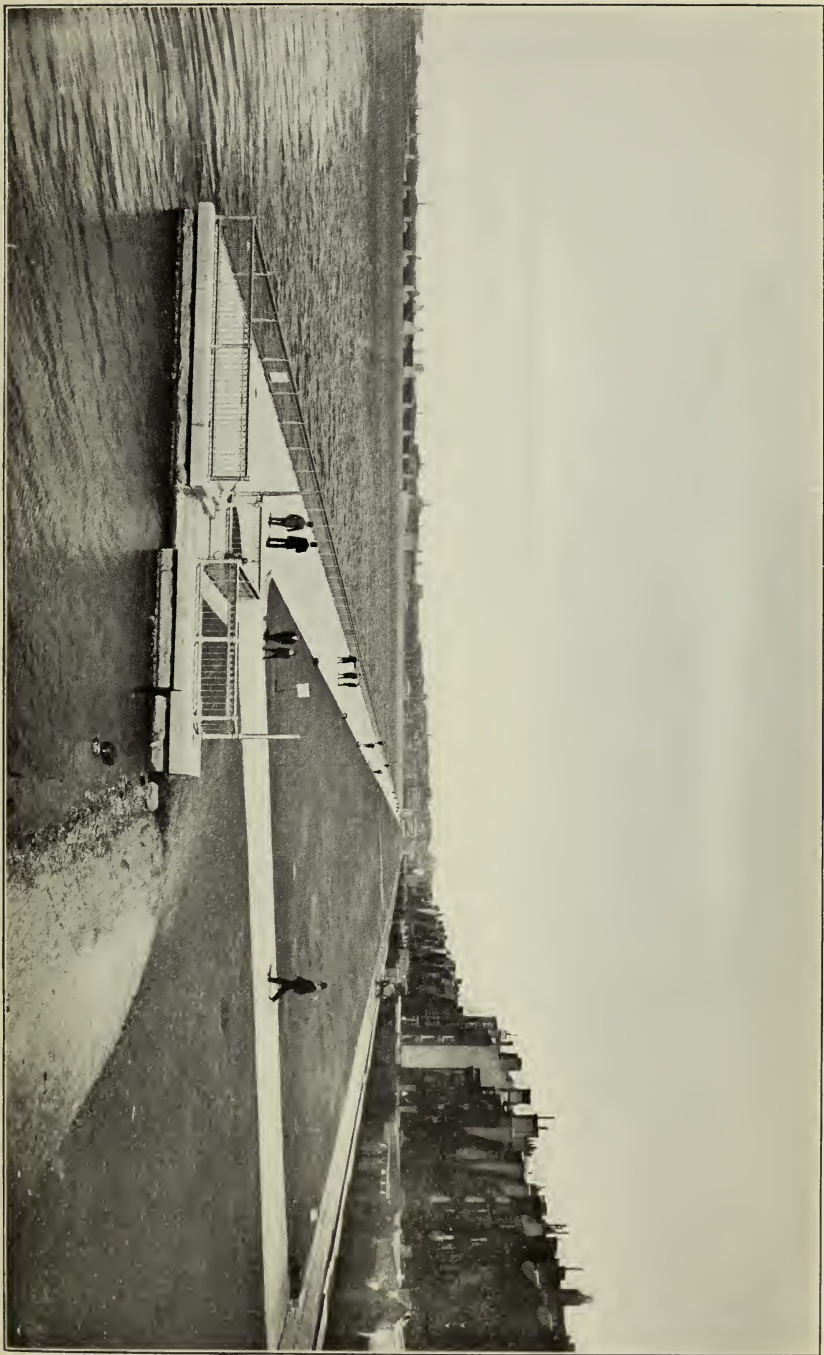
The Metropolitan Park Commission presents herewith its eighteenth annual report.

A substantial addition has come to the Metropolitan Park System since the last report through the transfer to this Board, on July 1, 1910, of Charles River Basin, under the provisions of chapter 524 of the Acts of 1909. Charles River Basin, as defined by the statute, includes the Dam, consisting of the solid filled area, with walls, park spaces, bridge, roadway, locks, sluices and incidental buildings, machinery and structures; the Embankment from Cambridge Bridge to Charlesgate West, consisting of walls, gate-house, park spaces, and driveway on the easterly side; and the water basin itself, consisting of the permanent fresh-water area, which has replaced what was approximately the same tidal area of Charles River before the Dam was constructed. Charles River Basin as thus described was created and the construction work carried on by the Charles River Basin Commission, a special commission authorized for that purpose under chapter 465 of the Acts of 1903, and various acts in amendment thereof. Their work was monumental, and the result, as seen in the Charles River Basin of to-day, marks an epoch in the geographical history of Boston. When transferred to this Board the Basin was substantially completed, at a cost stated by the Basin Commission in their final report as \$3,992,552.71, with a newly created land area of nearly 35 acres, a constant water area of 800 acres, 175 acres of which were formerly mud flats exposed at low tides,

and an improvement of nearly 18 miles of shore front. In receiving this great addition to the Metropolitan Park System, this Board gladly pays tribute to the substantial, attractive and thorough work done by the Basin Commission, and expresses its appreciation of the pleasant relations which it has had with that Board during the year in which the two boards acted as a Joint Board under chapter 404 of the Acts of 1907, for the purpose of granting locations to duly organized boat clubs, and of the courtesy and assistance extended to it in connection with the transfer of the Basin.

The offices occupied by the Charles River Basin Commission were continued until Aug. 31, 1910, then closed, and the furnishings, plans and documents transferred to the office of this Board. Its Chief Engineer, with one Assistant Engineer and a Chief Clerk and a portion of the Engineering force, were continued for a time to assist in completing the transfer and certain portions of the work which of necessity remained unfinished, and substantially the entire operating force for the locks was continued indefinitely. A temporary administration office for the Basin was established at the lock-house, and the work of completing minor portions of the construction, and of organizing and carrying out the regular work of superintendence, policing and operating the locks containing the water basin and park areas was entered upon.

As the Basin Commission was distinctly a construction board, and its time for completing the work assigned to it was fixed in advance of completion by statute, it is not surprising that when this Board entered upon its part of the work many details of construction, as well as accommodations and arrangements for administration and making the Basin convenient and useful, were uncompleted or wholly unprovided for. In the short time which has already elapsed since the transfer many of these have been completed, but much remains to be done; and this Board has felt it wise to proceed with caution, and to refrain from hasty efforts to meet all the many requests for increased accommodations for recreation, sport and other uses of the Basin and its waters and Embankment. This caution has arisen in most instances from a desire to avoid serious mistakes, and from



CHARLES RIVER BASIN EMBANKMENT. — Down-stream from Harvard Bridge.

consideration for the plainly expressed disinclination of property owners in the neighborhood of the Basin to have its present clean-shaven, formal look, and the uninterrupted vista from their houses, interfered with. That this feeling will soften as time goes on, just as the whole neighborhood opinion as to the establishment of the Basin has changed, is already becoming manifested in requests for modification of rules and authorization of uses for more or less personal convenience to those who ask for them.

This Board is prohibited by statute from locating boat houses and floats upon the waters of the Basin between the Dam and Cottage Farms or Brookline Street Bridge, and has no direct authority to locate boat houses upon the Embankment except for duly organized, that is, incorporated, clubs. The authority in regard to such clubs was given by special statute to this Board and the Basin Commission by the statute previously cited, and resulted in locations being granted on the easterly embankment to the Union Boat Club and to the Boston Athletic Association. The former club has built a boat house, but the latter has been delayed by threatened legal action by neighboring owners to restrain the erection of their boat house, and will probably not build until adjustment of this objection is reached.

In its present form, the Basin, including the Embankment, suggests in the most tantalizing way many possibilities of sport and recreation, which may not be availed of, however, for the lack of authority and reasonable accommodation, and the outstanding right of one property on the Boston side to keep a channel open in winter. It seems advisable to provide for rational sports and forms of recreation, and yet the Board is of the opinion that changes for that purpose should be made conservatively. It therefore merely suggests at this time the necessity for authority to grant permits or provide for boat houses and floats of a temporary character upon the waters of the Basin, until the entire matter of permanent provision for boating and other forms of recreation, and the right to keep the channel open in winter, is adjusted by agreement or acquirement of the only wharf remaining on the Boston side of the Basin.

The administration and care of the Basin divides itself into three departments: that of operating the lock, under direction of the Engineer of the Board; that of policing; and that of caring for the roadways and the grounds. The policing and caring for grounds departments have been placed under supervision of the senior Superintendent in employ of the Board, who has been assigned to this part of the work in addition to that which he performs in charge of the Revere Beach Division. Administration quarters provided in the lock-house for police and general supervision are insufficient, and the only rooms occupied there are already required for use by the operating forces for the lock itself. Permanent police and labor headquarters will therefore have to be provided as soon as possible near the stable and boat house. The police service consists of a water police for the waters and ice of the Basin, and a land patrol upon the roadway and park spaces of the Dam and Embankment. Care of the park areas by the laboring forces has already improved their appearance, but cannot be extended to more permanent development and planting of trees and shrubbery, at least along the southerly portion of the Embankment, until the proposed subway construction through that portion is completed.

The Basin Commission dredged a narrow channel throughout the portion of the upper basin in the neighborhood of Watertown, and deposited the material as a gravel bank on either side of the river. The result is a raw edge of gravel, and a channel which very soon will be too narrow for increased use, and is likely to be dangerous, because between the shores and the channel the water is so shallow as to be dangerous for many boats. In the near future this channel will need improvement, and at the same time it is hoped that the banks may be made more attractive.

Under a special appropriation of \$10,000 the Board has been enabled to extend and complete Charles River Road in the neighborhood of Watertown Square.

Few other changes have been made during the year in the area of the reservations and parkways. A small piece of land has been acquired at the southerly end of Revere Beach

Reservation, to provide location for a sea wall about Charles Eliot Circle, and its extension as a breakwater to meet a new pier being placed in that neighborhood by private enterprise. Land between Powder House Boulevard and the new location of Alewife Brook has been transferred to the city of Somerville for a playground, in return for other land transferred to this Board for the Alewife Brook Parkway location. Other slight changes made in settlement or for other reasons are described in detail in the Secretary's report.

Next to Charles River Basin, the most important newly constructed work which has been opened and made available to public use has been the Mystic Valley Driveway along Mystic River, between Cradock Bridge and High Street in Medford. The lock at Cradock Bridge was completed the previous year, and a basin of fresh water at a level below high tide thereby created for the Upper Mystic River, Mystic Lakes, Alewife Brook and tributary ponds and brooks. The driveway opened this year is an extension of the driveway along Mystic Lakes and of the driveways to be built when authorized along Alewife Brook to connect with the driveways about Fresh Pond and thence to Charles River, all of which will connect with the driveway to be constructed in the future from Cradock Bridge over lands held in part by this Board and in part by the city of Medford and its Park Board to the point where Middlesex Fells Parkway and Revere Beach Parkway join near Wellington Bridge. The work already completed along Mystic River has transformed a great area of waste land and unsightly river bank into a clean and attractive, though somewhat formal, park. The driveway has already proved a great convenience to pleasure travel from the westerly part of the District, and the lowering of the water level by means of the dam has made possible the lowering and reshaping of Alewife Brook to a comparatively clean watercourse, and incidentally the reclaiming of a large area of noisome swamp outside the limits of the land acquired by this Board, which will soon become excellent market-garden land.

Dredging and relocating Alewife Brook has been continued from Mystic River to Little Pond, a distance of 2.3

miles, and the water lowered to its permanent level at about grade 7. The loan funds provided for this work are to be reassessed upon Cambridge, Somerville, Arlington and Belmont, in accordance with a special agreement with those cities and towns. They have proved insufficient for carrying the work to the point of completely shaping the banks of the new channel or dredging Little Pond, or extending the work from that point to connection with Spy Pond and incidental work. The Board recommends that an additional appropriation of \$60,000 be made for this purpose, as an addition to the amount previously authorized.

Surfacing Winthrop Parkway from Charles Eliot Circle at the southerly end of Revere Beach has been partially completed, and will be fully completed early in the year for the entire distance to Leverett Avenue.

Arrangements have been made with the city of Melrose and private owners, by which — the land, with the exception of one piece, being given by the city and private owners — a slight extension of Lynn Fells Parkway to meet the convenience of the city is to be made, and the Parkway completed during the coming year.

With the completion of the last-mentioned pieces of Parkway, all the loan funds which the Commission may expend will be exhausted.

Data as to the finances and expenditures of the Board are given in detail in the Secretary's report. The small balances shown by these statements are required for unsettled claims and their contingencies on account of land and contracts. Of the land claims, many are ones of long standing, which may not be paid until defective titles are made good; others are those arising from the recent acquirement of lands for the Alewife Brook improvement; and eight claims are in suit.

The administration and care of the reservations, with the exception of Charles River Basin, during the past year has presented few new problems, and may be taken to be about what, in the absence of new work being authorized, will be, with natural increases, the work to be done each year. Thus limited, even, it is a very large work, and is abundant in

quantity to occupy the attention of the Board and the present organization of its forces, which on the whole seems admirably fitted for the work. It is a work which brings constant contact with the public in providing for the daily safety and convenience of large numbers of people in a multitude of different uses. The parks and parkways are distributed over a district of 555.98 square miles, covering a territory of 38 cities and towns. They include upwards of 10,000 acres of land, of which approximately 7,200 are included in four woods reservations, varying from 4,700 acres in the Blue Hills to 58.33 acres in Beaver Brook Reservation; over 9 miles of seashore, including the Lynn and Nahant shores, Revere Beach, Winthrop Beach, Quincy Shore and Nantasket; 47 miles of river bank on the Charles, Mystic and Neponset rivers; 25 miles of completed parkway; 8 miles of public highway transferred to the care of the Board along the reservations; and other driveways and important roads along the seashore or river bank and the woods reservations open to automobiles and other classes of pleasure travel, amounting to approximately 42 miles more, or a total of formal roadways of over 80 miles. In addition, there are within the woods reservations almost as many more miles of roadways which are restricted to use by horse-drawn vehicles. A great speedway is maintained on Charles River; bath-houses at Nahant, Revere Beach and Nantasket; and a hotel and incidental buildings at Nantasket. The reservations and their general work are directed from the central office in Boston. The office force, under the direction of the Secretary to the Board, who also acts as its Executive Officer, comprises Claims, Purchasing, Paymaster and Clerical Departments, with the Engineering Department as auxiliary. The reservations and parkways are grouped for convenience into 8 divisions, which at present are in charge of 6 superintendents, all receiving general orders through the Secretary and Executive Officer, and in consultation with him and with sub-committees of the Board. The forces employed under these superintendents include, as assigned to them from time to time, a considerable police force, and laborers according to necessities. Each superintendent has charge of

the care and maintenance of the several reservations and parkways within his division, and division headquarters and administration buildings, and equipments and all apportionment of funds for the expenses of the division for the current year, which greatly varies according to the peculiar character of each reservation and parkway and the uses made of each. The amount of the entire work and the multitude of its detail is equal to that required for the operation of most cities, and in many respects exceeds that work, because it is performed in many different cities and towns, and in relation with many different municipal organizations and private individuals.

The maintenance work of the past year, in addition to the general care of the reservations, has included the repairing, under a special appropriation of \$59,000, of damage done to the seashore reservations by the storm of Dec. 26, 1909, and the resurfacing and otherwise repairing and improving of many portions of the road surfaces of the parkways and other roads under both general and special items in the maintenance appropriations. In regard to the maintenance of the roadways, it seems almost unnecessary to say that from mere reasons of economy it is necessary to keep the road surface in as nearly perfect condition as possible; and that the coming into increased use of automobiles has so changed the character of the wear and tear upon road surfaces that those rebuilt a few years ago have required entire resurfacing under special items in the appropriations beyond those which will hereafter be required for annual maintenance. It is also to be noted that the Commission has suspended its prohibition of use of the roadways by automobiles with chains from November 15 to March 31, because of a very general public demand, but that in consequence an increased annual allowance of \$14,000 for road repairs is estimated to be necessary, and has been included in the estimates for this year.

Under special items in the maintenance appropriations for the past year, a new observation tower of unique and pleasing architectural form has been built of reinforced concrete on Bear Hill in Middlesex Fells, to replace the wooden tower which was built there many years ago by the Appa-



MIDDLESEX FELS RESERVATION.— Bear Hill Tower.

lachian Mountain Club. There have also been built a sanitary and sub-station at Quincy Shore; a sanitary building with filtration sewerage beds near Houghton's Pond in the Blue Hills; an incinerator for waste paper and refuse at Nantasket. The Nantasket buildings have been painted. Granolithic sidewalks have been laid in Middlesex Fells Parkway along land held by this Board in the neighborhood of Fellsmere, and along the land of such private owners as have contributed one-half the cost. A new arrangement of the work headquarters of Middlesex Fells has been made, to provide greater storage area and separation of buildings as a precaution against fire; a new office building, carpenter shop, paint shop, garage and sheds for spraying apparatus have been built.

It is worthy of note that the vigorous measures adopted by the Board for control of the gypsy moth and other insect pests in the woodland reservations have resulted in a very substantial diminution of danger from these pests. The amount of work required to control them, except in a few places where restrictive measures in outside woodlands have been feeble or entirely wanting, has been gradually reduced. As a result, the Board has been enabled to ask for a smaller appropriation each year, and will make further reduction in its request for the coming year. But, while this result is cause for congratulation, it must be remembered that absolute suppression of the gypsy moth can probably never be accomplished, and that insect pests of one sort or another will always threaten damage. The reservations now appear to be well equipped with tools and apparatus for controlling these pests, and the Board and its employees have gained an experience in this work which is very valuable. The net result of that experience is one so simple that it would be needless to state it, except for the possibility that vigilance may relax as the danger lessens. In brief, the lesson learned from the great work and enormous expenditures of the last few years in controlling these pests is that the trees, shrubs and plants may be preserved and increased at the least possible cost only by constant watchfulness and care to keep them as nearly as possible in perfect condition of sound,

healthy, growing organisms; and that keeping them in this condition requires elimination of the diseased parts, which spread decay and provide nesting places for destructive parasites and pests, reduction in number, to prevent overcrowding and starvation, and prompt destruction of the parasites and pests which prey upon the life of the vegetation.

The present efforts of the Board in line with this simple lesson are directed toward improving the general condition of the woodland growth, with careful regard also for preserving the naturalness, beauty and usefulness of the reservations. The results thus far achieved, while believed to be encouraging, warrant the Board in saying that, from a mere regard for economy, it will never be wise to reduce the appropriations for this sort of work to a point which will make it impossible to continue a reasonable amount of cutting, pruning and destruction of parasites, and the planting and encouraging of new growths. Plans have already been prepared for consistent work in Middlesex Fells and the Blue Hills through the years to come. Young conifers are being planted in the Blue Hills, and a very reasonable percentage of them have survived and shown excellent growth. Those planted a few years since in secluded parts have now reached a height of seven feet; 110,000 pine seedlings have been set out during the past year, and in all upwards of 460,000 have been planted. In Middlesex Fells 5,000 hemlock seedlings have been planted during the present year.

It is the custom of the Board to rigidly limit its annual maintenance expenditures to the amount of the appropriations for the purpose. This policy has been carried out even when, as has sometimes been the case, its recommendations have been partially set aside and reduced appropriations provided, and there has been no expenditure in any year beyond the appropriation made for that year. The appropriations recommended in each year are based upon estimates made by the division superintendents in consultation with the subcommittee of the Board for the division, and then examined and passed upon by the entire Board, and after being transmitted to the Legislature, are explained in detail and passed upon by the Ways and Means Committee of the Legislature

after notice and public hearing accorded to the municipal authorities of the District. As thus provided, the appropriations must cover expenditures for a multitude of items, including tools, keep of horses and vehicles, supplies and petty expenses, as well as salaries, wages, travelling expenses, cost of offices, plans, and other expert and special assistance. If the appropriations are less than the amounts recommended, a careful revision of the allowances for all these many items must be made in the subsequent apportionment to the division superintendents for the several reservations and parkways in their charge. But whatever the result may be, the division superintendents are required to confine themselves to the limit of the apportionment. The large amount required for maintenance, even when thus carefully scrutinized, naturally leads the Board to omit from its estimates many items for additions and improvements, and even for increasing opportunities for recreation and enjoyment by the public, which they would like to include from time to time. For this reason it is often impossible to provide as fully as the public desire for ball fields and other recreation grounds, for boating and swimming conveniences, and for clearing the ice continuously for skating. While thus striving to restrict its expenditures, the Board feels that it will be necessary within the next few years to ask for certain items of increased expenditure which may be mentioned at this time. At Middlesex Fells work headquarters a new stable is required; and at the northeasterly corner of the Reservation an entrance road of short length ought to be provided, to facilitate approach from the main road to Stoneham and to Woburn; and shelter and improved sanitary and refectory buildings must be provided in the neighborhood of the Stoneham-Medford line, where at the limit of the five-cent fare from Boston the Boston Elevated and the Boston & Northern tracks meet. At Nantasket Beach Reservation the bathhouse is frequently inadequate on hot days in summer, and if enlarged, the slight additional cost of maintenance would be more than provided for by increased receipts. The county road which runs through and past this Reservation will have to be relocated and rebuilt, in part at least, because

it was found last year that the electric railway, which was supposed to lie wholly within the road, was in fact partly within and partly without its limits, and could not be relocated without occupying so much of the constructed roadway for vehicles as to make it unsafe; in consequence, the railway has since operated a portion of its line over a single track, to the delay and discomfort, and possibly danger, of the travelling public.

It may also be noted that certain portions of the parkways and other improvements cannot be constructed for lack of loan funds, although the land has been secured for them, as follows: along Mystic River, from Cradock Bridge to junction with Middlesex Fells and Revere Beach parkways; along Alewife Brook and Little River; between Lowell Memorial Park and Charles River; along Charles River, especially between the Arsenal and Gerry's Landing and between Soldiers' Field and Western Avenue; portions of Neponset River Parkway, from Stony Brook Reservation to Paul's Bridge and from Canton Avenue to Blue Hills; Furnace Brook Parkway, from Adams Street to Quincy Shore Reservation and from Atlantic Bridge to Hancock Street.

For purposes of record, it may also be added that reasonable extensions of the Metropolitan Park System have from time to time been suggested through petition of citizens of the District to the Legislature for parkways from Mystic Valley in Winchester to Woburn; from Middlesex Fells to Wakefield; from Winthrop Shore to the portion of Winthrop Parkway already built and connecting with the Revere Beach Reservation; from Nantasket Beach Reservation for a driveway along the rocky shore of Atlantic Hill to Strait's Pond and the Jerusalem Road; for an extension of Lynn Fells Parkway to Lynn Woods, and from Lynn Woods to Revere Beach or Lynn Shore.

It may also be noted that the Board has been required to report at various times upon larger suggestions for boulevards of mixed parkway and highway character from Middlesex Fells Parkway to Charles River at or near Harvard Bridge, and from Columbia Road Bridge of the New York, New Haven & Hartford Railroad in South Boston, through Savin

Hill and Harrison Square, to Neponset Bridge; and for a parkway from Charles River at Galen Street Bridge in Watertown, through Newton and Brookline, to West Roxbury Parkway in the city of Boston.

All these matters of new construction are referred to, however, merely for record purposes, and with no intention of urging that they be provided for upon the mere suggestion or report of this Board. It has always been the policy of the Board to refrain as far as possible from attempting to influence the judgment of the Legislature and District in regard to its financial abilities.

Certain important events may be noted here. The Boston & Northern Street Railway Company has completed the construction of its road-bed and one line of rails upon the location granted by this Board in Middlesex Fells from the Medford line terminus of the Boston Elevated Railway to connection with its tracks in Main Street at South Street, thus completing a continuous line of electric railway from Boston to Stoneham and points beyond. Special reports required of this Board by Resolves of the Legislature of 1910 have been completed and transmitted, and copies are included in the Appendix of this report, as follows: as to the advisability of improving the sanitary condition of Charles River between Moody Street in the city of Waltham and Concord Street in the city of Newton; as to cost and advisability of completing the Metropolitan Boulevard in the city of Quincy; as to feasibility and least cost of constructing a speedway along or near Mystic River; as to the advisability and cost of a parkway between West Roxbury in the city of Boston and the town of Watertown. During the past two years the Board has sat with the Railroad Commission, the Boston Transit Commission and the Board of Harbor and Land Commissioners as a Joint Board on Metropolitan Improvements, authorized by chapter 113 of the Resolves of the General Court for the year 1909, and made preliminary report to the Legislature of 1910, and is about to make its final report to the Legislature of 1911.

Death removed Moody Leighton, a most faithful and efficient employee, who had been in the service almost from its inception, and had advanced from patrolman to Superin-

tendent, and had charge of Nantasket Reservation since Aug. 30, 1900. He had suffered intensely at times from slowly advancing heart disease, and died suddenly on June 4, 1910.

The resignation of John Woodbury, Secretary and Executive Officer of the Board, has been accepted, to take effect Jan. 15, 1911. Entering the service of this Board to take charge of its Claims Department on April 15, 1895, he was soon after appointed to the position which he has since filled with signal success. It is impossible to overstate the value of his services, or to express the regret felt by the members of this Board at the termination of so long a period of work and association with one who has been, with rare tact, ability and fidelity, employee, companion and adviser. He leaves the work in excellent condition in every department, but all the forces and the public will miss his genial presence, admirable administrative power and constant helpfulness.

George Lyman Rogers has been appointed and approved as Secretary and Executive Officer of the Board, to succeed Mr. Woodbury; and Mr. William H. Gowell has been appointed as Assistant Secretary. Mr. Rogers became associated with the work of the Board Aug. 26, 1896, and has since had charge of the titles, contracts, settlement of claims and incidental legal work, and in the absence of the Secretary has acted as Secretary *pro tempore*, in all of which work he has manifested sound ability and fidelity. Mr. Gowell entered the office of the Commission as a messenger May 16, 1898, and has since risen on the Civil Service list to high clerical rating, and in the service of this Board to have charge of the Purchasing Department, which he has conducted with great good judgment and successful economy.

All of which is respectfully submitted.

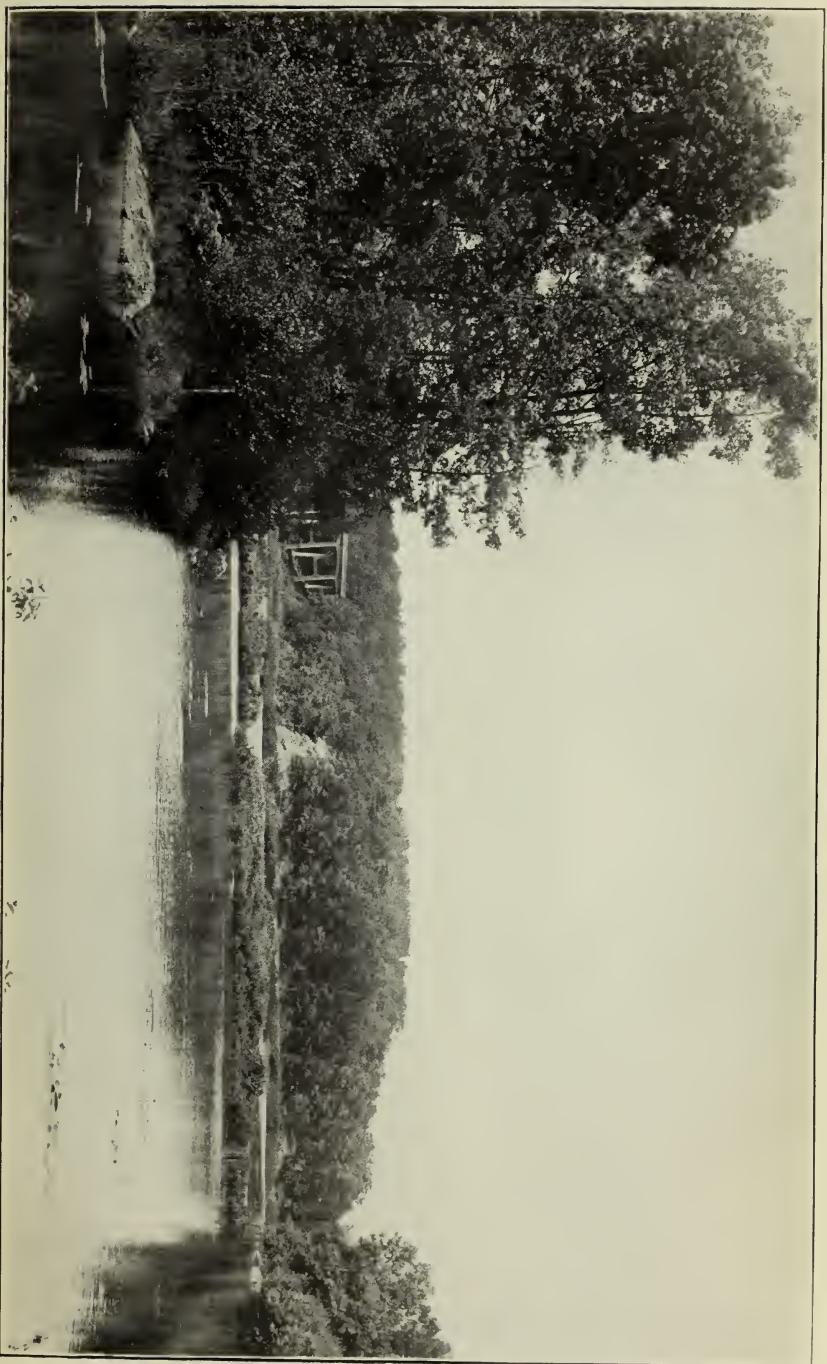
WILLIAM B. DE LAS CASAS.

EDWIN U. CURTIS.

DAVID N. SKILLINGS.

ELLERTON P. WHITNEY.

EVERETT C. BENTON.



MIDDLESEX FELLS RESERVATION.

Boston & Northern Trestle across Dark Hollow Pond.

REPORT OF THE SECRETARY.

HON. WILLIAM B. DE LAS CASAS, *Chairman, Metropolitan Park Commission, 14 Beacon Street, Boston.*

SIR: — I herewith present my report for the year ending Dec. 1, 1910. It is subdivided as follows: 1. Acquirement of lands; 2. Administration; 3. Miscellaneous; 4. Finances.

1. ACQUIREMENT OF LANDS.

A large and important addition has been made to the area of the Metropolitan Park System by the transfer on July 1, in accordance with the provisions of chapter 524 of the Acts of the Legislature of 1909, of the care and control of the Charles River Basin, which includes the waters of Charles River between the Charles River Dam and the lower dam at Watertown, the Charles River Dam itself, including the lock, sluiceways, the highway in substitution for the old Craigie Bridge between Boston and Cambridge, and the park area on the upper side of the dam, the Charles River Embankment in the rear of Beacon and Brimmer streets in Boston, marginal conduits, and other works of construction, the building of which was carried out and substantially completed on July 1 last by the Charles River Basin Commission. The area of this body of fresh water, in which the water is kept at a constant level, and from which the tides are excluded by the Charles River Dam, is 790 acres. The distance from the Charles River Dam up to the dam at Watertown is 8.7 miles. The Basin is widest below Cottage Farms, where the distance from the Boston to the Cambridge shore is for the most part over 1,385 feet. The Dam is 1,526 feet in length, over which runs the highway, 85 feet wide, including sidewalks and street-car location. The main ship lock, which is at the Boston end of the Dam, is 350 feet long, 45 feet wide, and when filled gives a depth of 25.4

feet of water. The sluiceways are at the Cambridge end, and include a lock for small boats. West of the highway, and between the main lock and the Cambridge side, is a park area of 8 acres. The buildings on the Dam include upper and lower lock gate-houses, shelter in the park, and stable and boat house on the Cambridge side. The Charles River Embankment is a park of 25.70 acres, on the Boston bank of the river, extending from Cambridge Bridge up the river to a point 150 feet beyond Charlesgate, where the waters of the Fens enter the Basin. A granolithic promenade follows the line of the sea wall for its entire length, and crosswalks connect the promenade with the ends of the Boston streets which reach the Embankment. From Cambridge Bridge to Otter Street a park road has been constructed, 45 feet in width. The rest of the park area is grassed, and some shrubbery has been set out. It should be noted that on the Cambridge side of the Basin the shore from Cambridge Bridge to Cambridge Hospital is controlled by the Cambridge Park Commission. Of the remainder of the shores of the Basin the Metropolitan Park Commission several years ago acquired as a part of the Charles River Reservation the shore on the north side from Cambridge Hospital to Watertown Dam, and on the south side from Cottage Farms to the same point, with the exception of the frontages in Brighton of the Brookline Gas Company and the Brighton Abbatoir. In addition to these two private holdings, the shore of the Basin on the south side from Cottage Farms down to Charlesgate West is also in private ownership. It is also to be noted that the shores of the Basin are partly in the cities of Boston, Cambridge and Newton, and the town of Watertown.

Other minor changes in the Metropolitan Park holdings have been as follows: The portion of Bath Street, a private way, extending from Ocean Avenue in Revere into the Revere Beach Reservation, has been conveyed to the Commonwealth by the owners, and new lines therefor established; a few feet of land from Beaver Brook Reservation have been conveyed to an abutting owner, in consideration of the release of a right of way through the Reservation; an exchange of land has been made with the Boston & Albany Railroad in Charles River

Metropolitan Park System—Dec. 1, 1910.

[illegible]

Reservation in Brighton, in order to establish a better boundary line; at the junction of Winthrop Parkway with Revere Beach Reservation several seashore lots on Pontus Avenue have been acquired, which results in much improved conditions at that point; land along the brook near Mystic River in Alewife Brook Parkway has been transferred to the city of Somerville, to be developed by the city for park and playground purposes; a small parcel of land at Spy Pond in Arlington was abandoned to the Cambridge Ice Company, as a part of the settlement for lands taken for Alewife Brook Parkway; an exchange of land was made with H. L. Frost in Arlington, at the junction of Alewife Brook Parkway with Lake Street, by which an improved entrance for the Parkway and a less cost of construction will be obtained.

2. ADMINISTRATION.

The same form of organization described in previous reports has been continued, but the coming into the Parks System of the Charles River Basin has added a new division to be administered, and has required some additional clerical assistance. The details of administration have increased rapidly the last few years with the increased use of the parks and parkways, and some changes will probably have to be worked out in the coming year, to maintain the present standard of efficiency. This year's work of the several departments reporting to the Commission through the Secretary is here given.

Engineering Department.

The details of important constructive work in charge of this department is given in the report of the Engineer, which is printed herewith. The building of a new channel for Alewife Brook, which was begun last year, has been carried this year as far as present appropriations will permit. This work, together with other work connected with it, such as the building of concrete retaining walls, changes in railroad and highway bridge abutments, lowering of Metropolitan Sewer, building of new bridge for Hill Road in Belmont, has involved a large amount of labor and the substantial expendi-

ture of the entire appropriation for sanitation work. Construction work in the parkway through which the brook runs must await further appropriations. The roadways of Mystic Valley Parkway are now open from Cradock Bridge in Medford through Somerville, Arlington, West Medford and Winchester to Middlesex Fells Reservation. The last section between Main Street and Boston Avenue was completed and opened to travel on August 20. There remains dredging to be done in the river, especially at its exit from Lower Mystic Lake. As soon as the changes in the Metropolitan Water Main at Weir Bridge made necessary by these changes are completed, the dredging can be done. Surveys have been made for building the connecting section between Furnace Brook Parkway and Quincy Shore Reservation, but no appropriation is at present available for construction. The short section of Winthrop Parkway in Revere has been partially surfaced, and it is intended to complete the work in the spring. Under the direction of this department a section of Revere Beach Parkway westerly from Broadway has been resurfaced. In the Middlesex Fells Parkway, under a special appropriation, granolithic sidewalks have been laid in cases where the abutting owners contributed one-half the cost. Charles River Road in Watertown has been extended from its temporary ending at Riverside Street to a connection with Galen Street Bridge. Portions of the future extension of this road in Cambridge have been filled to subgrade with material from the subway under construction in Cambridge. A portion of this material was also deposited on the line of future roadway along the Brighton side of the river easterly from North Harvard Street. The Engineer has planned and directed a considerable amount of work required in repairs of the damage along the seashore reservations caused by the extraordinary storm of last December. Concrete sea walls have been built at the southerly end of Revere Beach and at two locations at Quincy Shore. New bulkheads and repairs to old walls and bulkheads, resetting of curbing and rebuilding of gutters and roadways were required at Lynn, Nahant, Revere, Winthrop, Quincy and Nantasket. In the

Middlesex Fells Reservation extensive road repairs were supervised by the Engineer, and also the completion of work on the location of the Boston & Northern Street Railway location. The transfer of Charles River Basin to this Commission has imposed additional burdens upon this department. Several outstanding contracts remained to be completed, and important work remained to be planned for and executed. These works of construction were continued so long as the weather remained favorable, and will be continued in the spring. The important duty of providing for the proper administration of the locks and sluiceways of the Dam, the drawbridges of the highway, marginal conduits, and all engineering works connected with the Basin and the maintenance of open channels during the winter months, has been placed in the hands of the Engineer. At Nantasket Beach Reservation an incinerating plant for disposal of rubbish was planned by the Engineer, and constructed under his direction. All extensive road repairs, including treatment of surfaces with oil and tar preparations and calcium chloride, inspection of bridges and supervision of repairs, inspection relating to permits issued to public officers, private corporations or individuals for work in park lands, preparation of plans and estimates, and all other services requiring engineering knowledge, have been furnished as required in the regular duties of administration.

Law and Claims Department.

The duties of this department have been described in previous reports, and require no special description of the details involved. The number of outstanding claims has been reduced, so that the number appears now to be 69, for which it is estimated \$71,414.64 will be required in settlement.

Superintendence.

BLUE HILLS DIVISION: B. J. COSTELLO, *Superintendent.*

As an aid to administration and additional fire protection, and at the same time to give better access to the public to certain portions of the *Blue Hills Reservation*, several new

woods roads have been built or are under construction, the work having been done by the laboring force of this division. A road along the southern boundary from Randolph Avenue to West Street in Braintree, and an extension of Wampatuck Road from the administration road to Bouncing Brook Path, are completed. A loop road has been built from the administration road in the western section to the summit of Houghton Hill, which affords one of the finest views in the Blue Hills. Much-needed connecting roads have been begun, one along the north border from Forest to Hillside Street in Milton, and another on the southerly boundary from Randolph Avenue to Houghton's Pond. A sanitary building, from plans of Stickney & Austin, architects, has been built near Houghton's Pond. A water supply has been obtained by extending the water main of Milton from the headquarters buildings on Hillside Street, and filtration beds have been constructed under direction of Messrs. Aspinwall & Lincoln, sanitary engineers. During the year 110,000 spruce seedlings have been planted in different parts of the Reservation. The work of holding in check the spread of the gypsy moth within the Reservation has been successful, although the continued increase of this insect pest in the surrounding country is most apparent. Several fires started during the exceptionally dry summer season, and only preparedness and most efficient work by the employees of this division prevented serious damage.

At the *Stony Brook Reservation*, Turtle Pond Road, which is much used as a cross-country road by automobiles, was treated with oil. A short piece of border road was started, which, when completed, will give access to the southern end of the Reservation. Work in suppression of the gypsy moth was necessary as in the past few years.

Neponset River Reservation and *Parkway* were more infested with the gypsy moth than in previous years, and consequently required more attention and labor. The roadway of the *Parkway* was treated with oil.

About one-half of the traffic side of *Blue Hills Parkway* was wholly resurfaced, under a special appropriation. The pleasure roadway was treated with asphaltoiline. The en-

trance of Brook Road in Milton was widened and improved, in co-operation with the town. The important trees at the Mattapan end were carefully pruned and treated. The gas main has been extended, so that the Welsbach lights are now supplied with gas as far as Canton Avenue.

At *Quincy Shore Reservation* the building of sea walls has already been referred to. At the corner of the Driveway and Bromfield Street a sanitary building has just been completed, and the entrance of the street has been improved in grade. The Driveway was treated during the summer with calcium chloride. Rafts were put out in the summer for the use of bathers. The Blue Hills police signal system has been extended so as to connect with boxes in this Reservation. The new Aviation Field at Squantum is adjacent to Quincy Shore, and the Meet last summer brought an immense throng, the greater part of which had to pass over the park roadways. No accidents occurred, but it is evident that if this event is to occur regularly there is immediate need of building the unconstructed portion of the Driveway from the junction with Atlantic Street to the end at Hancock Street.

Furnace Brook Parkway from Adams Street into the Blue Hills was treated with calcium chloride.

MIDDLESEX FELS DIVISION: A. N. HABBERLEY, *Superintendent*.

The roads most used in the *Middlesex Fells Reservation* have received oil and asphalt or calcium chloride treatment, and considerable portions have been resurfaced. Some additional paths have been opened, several locations for picnicking and a ball field cleared in the vicinity of the electric car lines, which now run through the center of this Reservation. The Boston Elevated line was running last year as far as Spot Pond, and on April 15 last the Boston & Northern Street Railway began the operation of its line from its junction with the Boston Elevated through the Reservation to its lines in Stoneham. The location passes over park roads on steel and concrete bridges, and runs for a distance along the edge of Bear Hill on a viaduct from which views are obtained of Dark Hollow and Spot ponds. A tower of concrete and steel con-

struction, designed by Stickney & Austin, architects, has been erected under a special appropriation for the purpose on the summit of Bear Hill. It replaces a wooden structure erected by the Appalachian Club several years before the Reservation was established. The summit of Bear Hill is the highest elevation in the Middlesex Fells, and the view from the tower is extensive and beautiful. A new path has been built from Main Street, near South Street, to the summit of Bear Hill. New woods roads have been opened, one through the Whip Hill section from Lynn Fells Parkway to Pond Street, and another through the Wenepoykin section from Forest Street to the East Dam of the South Winchester Reservoir. The animal collection at the Reservation office on Pond Street has been maintained, and some additions of small animals made to it. It is largely visited, and gives much pleasure. Ducks have been kept on Dark Hollow Pond during the summer. It has been decided to dispose of the flock of sheep this winter. The nursery of shrubs has been much improved, and has been drawn upon for this and other divisions. Hay, straw and vegetables of different kinds have been raised for the live stock, including the animal collection. A considerable number of hemlock seedlings have been planted, and some forestry work accomplished. New buildings, including office building, carpenter shop, paint shop and garage, have been built, and an improved arrangement made of existing administration buildings at the Pond Street headquarters. Only one fire of any extent occurred, and that was stopped before very serious damage was suffered. Work in suppression of the gypsy and brown-tail moth has necessarily been continued, and with encouraging results. The entire tree growth of this Reservation was sprayed during the spring. The amount of creosoting was reduced over the previous year, and apparently can safely be reduced still further. While the gypsy moth conditions have improved, the number of brown-tail moth nests is about the same as before. It will be necessary to go through the entire Reservation this winter, cutting off and burning the nests, which is the only successful way of combating this insect pest. The total cost, however, of fighting the moth in this Reservation has been reduced from year to



MIDDLESEX FELS RESERVATION.

Bridges on Location of Boston & Northern Railway.

year, and some reduction will be possible for the coming year.

Considerable portions of the roadways of the *Middlesex Fells Parkway* have been resurfaced and treated with different oil and asphalt preparations. The Chauncy Avenue entrance in Somerville was improved by widening the turn of the westerly side. Speeding on the snow was again permitted on a section of Fellsway West, and Fellsmere Pond was cleared for skating. Some planting was done at Fellsmere Park, and on the new extension of Fellsway West from Forest to Elm streets in Medford. Granolithic sidewalks were laid in cases where the owners contributed one-half the cost. Wellington Bridge has required some repairs, which have been done by the bridge employees. New motors have been installed for operating the draw with power supplied by the Boston Elevated Railway Company. Considerable planting and some resurfacing was done at the bridge approaches. The number of draw openings was 131.

Mystic Valley Parkway now furnishes a continuous roadway for pleasure travel from Cradock Bridge at Medford Square up the river bank, through portions of Somerville and Arlington, thence along the Mystic Lakes in West Medford and up the valley of the Abajona River in Winchester until it reaches the main westerly entrance of the Middlesex Fells. Of the portion which was still under construction at the end of last year, the section from High Street in West Medford down to Boston Avenue was opened on January 29, and the remainder, from Boston Avenue to Main Street, on August 20. Of the older portion from Winchester down to High Street, over a mile was resurfaced under a special appropriation, and the whole of this section treated with liquid asphalt. Some loam surfacing and tree planting was done on the new section. At Cradock Bridge the new dam and lock has been put in operation, which is designed to exclude the tides from the territory above, and, by maintaining a level of several feet below ordinary high tide above the dam, to greatly improve the sanitary conditions of the lowlands drained by the Mystic River and Alewife Brook. The knowledge that the water will, when the improvement is completed, be held at substan-

stantially the same level, instead of draining off and leaving flats exposed at low tide, has already increased materially the number of pleasure boats maintained on this river. During the past season, ending October 31, there had passed through the lock 1,683 power boats, 425 dories and 66 sail boats, and over the rollway 241 canoes, 210 dories and 198 row boats. This is a remarkable showing, considering that the work going on at Alewife Brook required the lowering of the water for considerable periods, and that the dredging necessary for a convenient access from the river to Lower Mystic Lake is not yet completed. It is evident that motors should be installed to operate the lock gates before next spring, as frequently the number of launches passing through is over 60 in one day, and the labor of opening and closing by hand is very great.

The driveway of *Lynn Fells Parkway* was treated with calcium chloride, and trees and shrubbery have been planted the entire length.

REVERE BEACH DIVISION: H. W. WEST, *Superintendent*.

The storm of December, 1909, did great damage to the roadway of *Revere Beach Reservation*, and the work of repairing, including resetting of curbing and gutters, clearing the road of material thrown upon it, replacing bulkheads, repairs to shelters and railings, was very considerable. In connection with this work, the concrete sea wall already mentioned at the southern end of the Reservation was built, which necessitated considerable grading at Charles Eliot Circle. Granolithic walk was laid on the seaside promenade for a distance of about 1,500 yards, which affords considerable relief to the crowded condition in summer of the sidewalk on the land side. Additional public sanitariums have been provided, under a special appropriation made by the Legislature. For this purpose space was taken out of the men's and women's yards at the Bath-house. Oil treatment was applied to the roadway from Revere Street to the Point of Pines, and from Shirley Avenue to Chester Avenue the tarvia surface was repaired.

The *Revere Beach Bath-house* was opened on June 12 and closed on September 11, a period of 92 days. The early part of the season was favorable for bathing, and the use for the season was very large, although it did not reach the highest record. One death occurred from an accident in diving, in defiance of repeated warnings and a posted notice. The total number of bathers was 168,496, of whom 104,393 were males and 64,103 females. The largest day was on Sunday, July 10, when the attendance was 8,090. The total receipts for the season were \$36,547.50, and the expenses for the year \$32,021.09. The balance will be used for repairs and renewals and the expenses incident to maintaining the plant. As no appropriations are made for running the Bath-house, and it is maintained wholly from receipts, it is necessary to keep some balance on hand to meet emergencies, and to cover any deficiency which might come from an unfavorable season.

Winthrop Shore Reservation suffered most heavily from the December storm. Large sections of the coping stone of the wall were torn off the dowels which held them to the main wall and to each other, and in many cases these stones were carried across the walk into the roadway. The iron fence was broken and the granolithic walk destroyed. Tons of material, mostly stone from the beach, were heaped upon the driveway. All of this has been repaired, and a section of the wall at Grovers Cliff rebuilt. The coating of the roadway with tarvia proved to be a great protection in the storm, and this has been repaired and renewed. The bridge over the location of the Boston, Revere Beach & Lynn Railroad has required resurfacing with wooden blocks.

Revere Beach Parkway has required, and received, extensive repairs and road treatments of oil or tar. Its use for automobiles continues to increase. At Malden River Bridge electric motors are being installed, to take the place of the gasoline engines heretofore used to work the drawbridge. The openings in this draw for the year were 630.

Lynnway extends from the Point of Pines to and including the Saugus River Bridge. The tarvia of the roadway has been repaired. The bridge has been repainted by the

bridge employees, and electric motors are being installed to operate the drawbridge. The number of openings of the draw this year was 453.

Lynn Shore Reservation suffered some damage from the December storm. The sea walls required repairs at two places, and a portion of the iron fence was replaced. The roadway was resurfaced and treated with Texas oil.

Nahant Beach Parkway required repairs after the December storm. The roadway was resurfaced and treated with calcium chloride. The bridle-path, which is on the sea side, suffered the most. The débris was removed, and where necessary new surfacing given of loam and cinders. The *Nahant Beach Bath-house* was opened on July 1 and closed on September 5, a period of 67 days. The total number of bathers was 32,383, of whom 16,549 were males and 15,834 females. The largest day's attendance was 2,437, on Sunday, July 10. The receipts for the season were \$6,443.45, and the expenses for the year were \$6,654.41.

Superintendent West of this division has also been acting as Superintendent of the Charles River Division, Lower Basin, since July 1 last; and when his duties at the Basin have required his presence, Lieutenant Hawkins has served as Acting Superintendent of the Revere Beach Division.

CHARLES RIVER DIVISION, RIVERSIDE AND SPEEDWAY SECTIONS:

J. L. GILMAN, *Superintendent*.

Norumbega Road, as it is to be called, has been completed, and will be opened to travel next spring. It runs along the left bank of Charles River, from Weston Bridge to Norumbega Tower, and affords picturesque views of the river. It has been built by the forces of the Riverside Section, under the supervision of the Engineer. The Riverside Section has again required active measures to repel the invasion of the gypsy and brown-tail moth and the elm-tree beetle, to which it is peculiarly exposed by reason of the extended boundary of this section, which reaches from Newton Upper Falls to the Waltham Dam. Here, as in the Fells, spraying has been mostly relied upon, and the results have been satisfactory. Some forestry work has been done, dead and dangerous trees

and underbrush having been cut out along the river banks. The river in the boating section has been cleared from rubbish, but the extremely low water, due to the unusual drought of last summer, rendered the river less attractive for boating than for many years. In the winter skating was provided for at Auburndale and Waltham, and the ice posted with danger signs so far as practicable. There were recorded 166 cases of capsizing from canoes, and 2 persons were drowned. The officers on river patrol are credited with 19 rescues from drowning.

At the Speedway there were 26 days of sleighing last winter. Races were held in the winter, spring and fall, for ribbons and cups under the auspices of the Metropolitan Driving Club. On May 19 and October 12, under the same auspices, horse shows were given at the Show Ring constructed last year. A driveway 100 feet wide has been built around the ring, so that spectators may head their horses toward the ring. An iron rail fence reserves 10 feet inside the driveway for persons to stand. Material from the shore dike, which is no longer required, now that the Charles River Dam holds the water at constant level, has been used for this driveway, and the balance is now being used to build an oval track around the Show Ring. The extension of Charles River Road from its temporary ending at Riverside Avenue in Watertown to its permanent connection with Galen Street Bridge at Watertown Square is practically completed, and will be opened to travel on December 10. Trees have been set out on the section of this road which passes through the grounds of the United States Arsenal. Moth and elm-tree beetle work has been done throughout this section, which extends from the dam at Moody Street in Waltham to the bridge at North Harvard Street in Brighton. At Faneuil a space has been kept clear and graded as a ball field, and the little pleasure ground for children at Market Street in Brighton has been kept up. The river from North Harvard Street to Watertown Dam is now the upper part of the Charles River Basin, no longer affected by the tides, and consequently much more attractive for boating. Public landings in the shape of floats have been located at several places, mooring places indi-

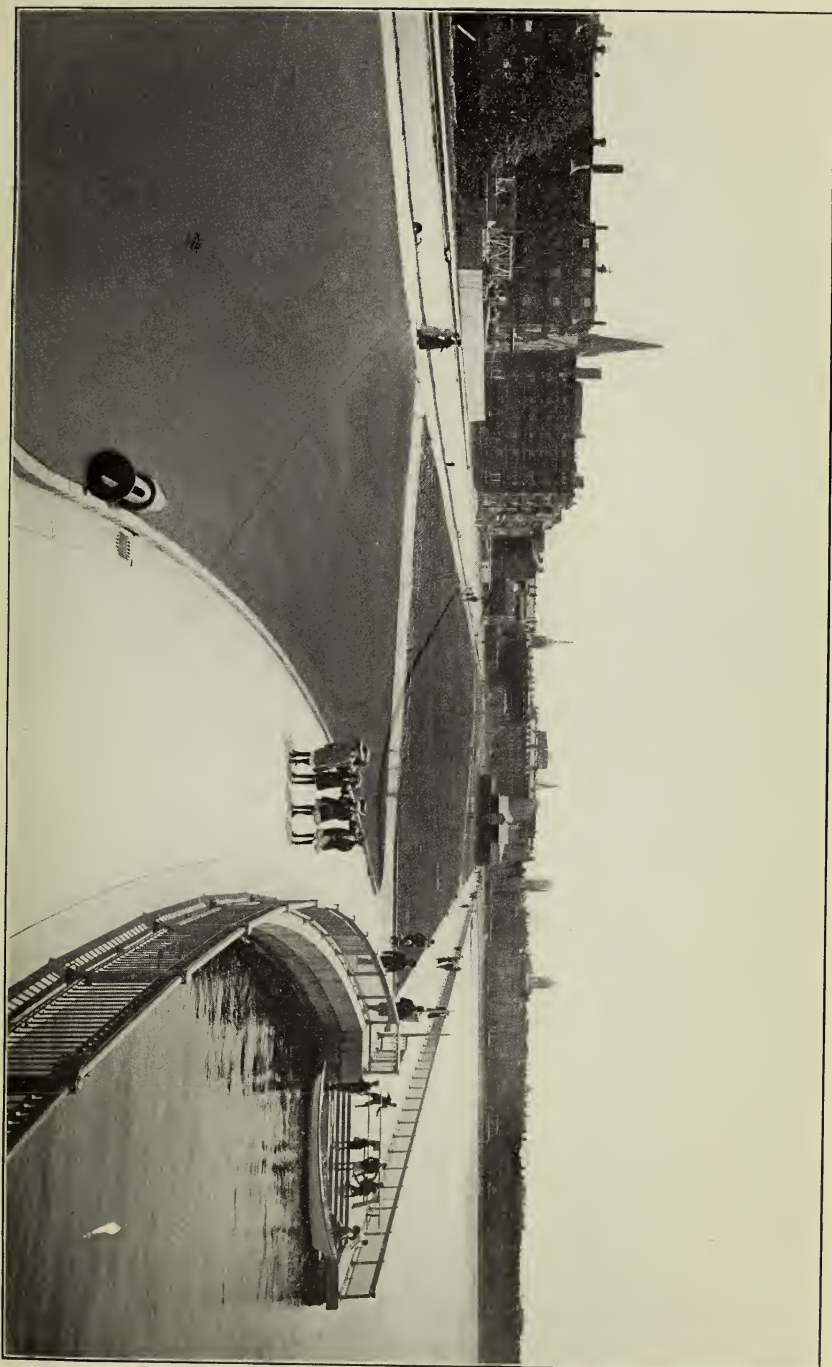
cated by buoys, and regulations adopted intended to facilitate boating of all descriptions. Already there is a small fleet of power-boats which finds anchorage just above the Arsenal, and on the Cambridge shore a boat club has built an attractive house. The Commission has under consideration the petitions of several boat clubs who desire locations for boat houses and floats at different points on the river bank. The maintenance of fresh water at a constant level has made skating possible in this section, and as far as practicable the ice has been patrolled and danger signs set out.

The roadway of *Fresh Pond Parkway* was treated this season with calcium chloride. Extensive moth and beetle work were required, as Cambridge is at the present time badly infested with these insect pests. Many of the white pines are dying off in Lowell Memorial Park, — a condition for which there is no remedy except by planting new trees.

The lands taken for *Alewife Brook Parkway* are included in this division, but, aside from placing life-saving devices at certain points along the new channel of Alewife Brook and a small amount of moth work, have not required special attention.

CHARLES RIVER DIVISION, LOWER BASIN: H. W. WEST, *Acting Superintendent*.

When the Charles River Basin, on July 1, came into the care and control of the Commission, it was found desirable to establish this separate section, to be known as the Lower Basin, for purposes of administration. It includes the dam, including the highway and park area and all other portions not expressly put in charge of the Engineer for operation of locks, sluiceways, drawbridge, etc., the Charles River Embankment on the Boston side, the lands previously acquired by the Commission from Cottage Farms to North Harvard Street in Brighton as a part of Charles River Reservation, and the water area from Charles River Dam to the bridge connecting North Harvard Street in Brighton with Boylston Street in Cambridge, now generally known as the Soldiers' Field Bridge, because it leads to the so-named athletic field



CHARLES RIVER BASIN EMBANKMENT. — Up-stream from Cambridge Bridge.

of Harvard University. The importance of establishing suitable police administration of this large area, lying partly in Boston and partly in Cambridge, and including a section of highway which replaces one of the most-used bridges in the Metropolitan District, led the Commission to place Superintendent West of the Revere Beach Division in charge, as Acting Superintendent, in order to take advantage of his police experience with large crowds at Revere Beach. Temporary police quarters have been established at the lower lock house on the Dam, but a more suitable building is needed as soon as it can be provided. Two small patrol boats and one larger, suitable for colder weather, have been built, and are in use. Two sentry-boxes have been placed on the Embankment for the shelter of officers in extreme weather. Additional life-saving apparatus, including boats hung on davits, have been placed along the river wall. Plans for a police signal system have been prepared. Some settees have been placed adjoining the promenade at the widest section of the Embankment. Embankment Road, which runs from Cambridge Bridge to Otter Street, has been treated with tarvia. Additional loam and fertilizer have been put upon the grassed spaces and the shrubbery beds cared for. The park area on the Dam has not yet been fully completed. Settees, however, have been placed in the shelter building, and it is practically open to use. The highway on the Dam has been cared for, but the anticipated settlement of the roadway is going on, and conditions cannot be fully satisfactory until the permanent pavement is set. Considerable *débris* finds its way into the Basin, and has been gathered up and removed. There have been many rowing regattas and one power-boat race on the Basin this season. On July 4, and again on October 12, Columbus Day, fireworks displays provided by the cities of Boston and Cambridge were sent off from scows anchored in the center of the Basin. Large crowds witnessed the exhibitions, but no accident occurred. On these, and in fact on every occasion, the Commission has had the most cordial and courteous co-operation on the part of the Police Commissioner of Boston and his men. Mooring points have

been established in the Basin, and plans are under way for the construction of several public landings. Several drownings have occurred in the Basin, and a number of commendable rescues have been made by the police force. The locks, sluiceways and drawbridge of the Dam are in the charge of the Engineer of the Commission, and the details of their management appear in his report.

BEAVER BROOK DIVISION: R. ELDER, *Superintendent*.

The popular use of this Reservation continues. There have been the usual number of picnickers and other visitors during the summer. The shelter, band stand and sanitary building provided last year have added to public convenience. Moth and beetle work have been thoroughly carried out, and no serious harm has come from this cause to the remarkable tree growth of this Reservation. It is to be regretted, though unavoidable, that two of the old oaks and one elm have died and will have to be removed this winter. The ponds have been used during the winter for skating, as usual.

NANTASKET BEACH DIVISION: E. E. BICKFORD, *Acting Superintendent*.

Just at the opening of the summer season Superintendent Moody Leighton died suddenly, on June 4, 1910, in the South Station, at Boston. He had been suffering from a heart trouble for some months, but by his own choice continued to perform his duties, with a determination that was one of the elements of his character. Mr. Leighton had been in the service of the Commission since May 20, 1896, and had had charge of the Nantasket Beach Division since Aug. 30, 1900. He was competent and faithful, and had both the respect and affection of all who knew him well. Lieutenant Bickford, who was then stationed at the Revere Beach Division, was designated Acting Superintendent of the Nantasket Beach Division, and has been in charge of that division since June 12, 1910.

Considerable repairs have been made to Nantasket Avenue where it runs through the Reservation. The grassed spaces have been loamed in front of the hotel buildings. A con-

nection with the Hull high-service water supply has been made to the hotel buildings, standpipes erected in the buildings, and other fire-protective measures taken in accordance with expert advice. The incinerator for rubbish previously mentioned has been used with excellent results. Changes have been made in the location of booths in the Pavilion, so that a larger number can enjoy the band concerts which are a most popular feature at this Reservation. The public use of the Reservation has been very large this year. The *Nantasket Bath-house* was opened on June 25 and closed on September 5, a period of 73 days. The total number of bathers was 43,733, of which 24,236 were males and 19,497 females. The largest day's attendance was 2,158, on Sunday, July 24. The receipts for the season were \$10,638.03, and the expenses for the year, \$10,385.99. This has been the record year for this Bath-house.

3. MISCELLANEOUS.

The Charles River Basin Commission and the Metropolitan Park Commission, sitting as a Joint Board under the provision of chapter 404 of the Acts of the Legislature of 1907, granted on April 4, 1910, to the Boston Athletic Association a location for a boat house on the Charles River Embankment, between Mt. Vernon and Pinckney streets, and adjacent to the location previously granted and built upon by the Union Boat Club. The Boston Athletic Association has postponed building its boat house, pending the outcome of a proceeding in equity instituted in the Supreme Judicial Court by Arthur P. Tarbell and others against the Association and the two Commissions, in which the constitutionality of the act and the authority of the Commissions to grant the location is denied.

The members of the Metropolitan Park Commission have attended the numerous meetings and public hearings of the Joint Board on Metropolitan Improvements created by chapter 113 of the Acts of 1909, consisting of the members of the Railroad, Harbor and Land, Boston Transit and this Commission, and have taken part in the preparation of the final

report of the Joint Board, which will be presented to the incoming Legislature.

The completion by the Boston & Northern Street Railway Company of work on its location in the Middlesex Fells Reservation, and the opening of the line to travel on April 15 last, has been mentioned. The Commission has now under consideration the petition of the West End Street Railway Company by its lessee, the Boston Elevated Railway Company, for a permanent location on the Charles River Dam.

Band concerts in the parks and parkways were provided for by a special appropriation of \$25,000. At Revere and Nantasket beaches afternoon and evening concerts were given on June 17, July 4 and Labor Day, September 5, and every day of the week except Mondays from July 4 to September 5. At Nahant Beach afternoon and evening concerts were given on Fridays from June 24 to September 9. Other concerts were provided for as follows: foot of Great Blue Hill, 9; Fellsmere Park, 4; Manchester Field, 8; Cradock Field, 4; Broadway Park, 7; Beaver Brook, 9; Speedway Pleasure Grounds, 8; Speedway Horse Shows, 2; Charles River Road, Watertown, 9; Fox Island, Waltham, 9; Waltham Regatta, 1; Riverside, 2. This makes the total number of concerts for the season 325 and the amount expended for music and incidental expenses was \$24,510.15.

By his last will the late Amor L. Hollingsworth devised conditionally to the Commission a tract of undeveloped land between Brush Hill Road and Blue Hill Avenue in Milton, to be added to the Metropolitan Park System. The Commission carefully examined the land and its relation to the Park System, and also conferred with the Park Commissioners of Milton as to its availability for local park uses. The Commission, after careful consideration, voted to decline the gift.

On April 26, 1910, the Supreme Court, in accordance with the provisions of chapter 419 of the Acts of the Legislature of the year 1899, appointed a commission to apportion for the next five years among the cities and towns of the District the amounts to be paid by them annually to the State for sinking fund and interest charges on bonds, and the expenses of maintenance of the parks and parkways. The members of

this Commission are Ernest H. Vaughan of Worcester, Charles G. Bancroft of Natick and Fred S. Hall of Taunton. This Apportionment Commission have held most of their hearings at the offices of the Park Commission, and have been furnished by the Park Commission with whatever information was required by them. This Apportionment Commission is the first to deal with the apportionment of the cost of the Charles River Basin in connection with the Metropolitan Parks apportionment. It is understood that their report is substantially completed, and will be filed in the Supreme Court in December. It is the intention to print this report as an Appendix to the annual report of the Park Commission.

The Metropolitan Park Commissioners were directed to make several special reports to the Legislature of 1911. By chapter 83 of the Resolves of 1910, a report is to be made as to the feasibility and cost of constructing a speedway along or near Mystic River; by chapter 848 of the Resolves of 1910, a report is to be made as to the desirability and cost of a parkway between West Roxbury in the city of Boston and Watertown; by chapter 101 of the Resolves, a report is required as to the advisability of improving the sanitary condition of the Charles River Reservation; and chapter 130 of the Resolves calls for a report as to the cost and advisability of completing the Metropolitan Boulevard in the city of Quincy. It is intended to print these reports also as an Appendix to this report.

As this report will be the last I shall have the honor to present to the Commission, I beg leave to express my appreciation of the consideration and confidence which I have always received from the members of the Commission during the fifteen years I have occupied the position of Secretary and Executive Officer of the Board. I also desire to record my gratitude to those who have served and co-operated with me in the work of the Commission, and have contributed so largely to whatever measure of success I have attained in this position.

4. FINANCES.

The following tables show in brief form the expenditures under the various park loans for the year ending Dec. 1, 1910:—

METROPOLITAN PARKS LOAN FUND.

Blue Hills Reservation:—		
Land,	\$163 90	
Miscellaneous,	31 80	
	<hr/>	\$195 70
Middlesex Fells Reservation:—		
Miscellaneous,	\$29 08	
	<hr/>	29 08
Revere Beach Reservation:—		
Miscellaneous,	\$39 20	
	<hr/>	39 20
Charles River Reservation:—		
Miscellaneous,	\$3,172 61	
	<hr/>	3,172 61
Neponset River Reservation:—		
Miscellaneous,	\$6 00	
	<hr/>	6 00
Mystic River Reservation:—		
Miscellaneous,	\$22,465 40	
	<hr/>	22,465 40
Lynn Shore Reservation:—		
Miscellaneous,	\$12 20	
	<hr/>	12 20
Quincy Shore Reservation:—		
Miscellaneous,	\$25 70	
	<hr/>	25 70
Winthrop Shore Reservation:—		
Miscellaneous,	\$252 45	
	<hr/>	252 45
Alewife Brook Purification:—		
Miscellaneous,	\$77,439 16	
	<hr/>	77,439 16
General expense,		729 62
		<hr/>
		\$104,367 12

METROPOLITAN PARKS LOAN FUND, SERIES II.

Blue Hills Parkway:—

Miscellaneous,	\$0 10	
	<hr/>	\$0 10

Middlesex Fells Parkway:—

Land,	\$2,430 83	
Miscellaneous,	30 42	
	<hr/>	2,461 25

Mystic Valley Parkway:—

Miscellaneous,	\$9,682 99	
	<hr/>	9,682 99

Revere Beach Parkway:—

Miscellaneous,	\$14 85	
	<hr/>	14 85

Furnace Brook Parkway:—

Miscellaneous,	\$21 40	
	<hr/>	21 40

Lynn Fells Parkway:—

Land,	\$2,300 00	
Miscellaneous,	1,228 10	
	<hr/>	3,528 10

Winthrop Parkway:—

Land,	\$5,300 00	
Miscellaneous,	9,308 53	
	<hr/>	14,608 53

Alewife Brook Parkway:—

Land,	\$31,767 05	
Miscellaneous,	225 30	
	<hr/>	31,992 35

General expense,	764 41	
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\$63,073 98

CHARLES RIVER BASIN LOAN.

Expended from July 1, 1910, to Dec. 1, 1910, . . . \$130,493 70

The above amount has been distributed as follows: —

Administration,	\$2,874 10	
Dam,	45,690 37	
Lock,	7,236 24	
Temporary bridge and approaches, .	44 62	
Drawbridge,	159 27	
Highway,	5,392 34	
Dredging, pile-driving and protection work in Basin,	21,511 43	
Broad Canal,	959 91	
Lechmere Canal,	69 13	
Boston Embankment,	9,258 72	
Boston Marginal Conduit,	1,612 74	
Cambridge Marginal Conduit,	67 11	
Elimination of malarial mosquitoes, .	21 59	
Maintenance,	35,596 13	
	<hr/>	\$130,493 70

The following tables show the total amount expended in each loan, the cost of each reservation and parkway to Dec. 1, 1910, and the amount charged by the Auditor's department to meet the sinking fund and interest requirements previous to Jan. 1, 1900: —

METROPOLITAN PARKS LOAN FUND.

Blue Hills Reservation: —

Land,	\$363,290 14	
Miscellaneous,	287,172 72	
	<hr/>	\$650,462 86

Middlesex Fells Reservation: —

Land,	\$690,782 43	
Miscellaneous,	287,401 81	
	<hr/>	978,184 24

Revere Beach Reservation: —

Land,	\$1,162,947 67	
Miscellaneous,	799,527 38	
	<hr/>	1,962,475 05

Stony Brook Reservation: —

Land,	\$281,243 87	
Miscellaneous,	75,811 92	
	<hr/>	357,055 79

Beaver Brook Reservation:—

Land,	\$29,819 29
Miscellaneous,	23,937 71

\$53,757 00

Hemlock Gorge Reservation:—

Land,	\$53,254 00
Miscellaneous,	15,543 94

68,797 94

Charles River Reservation:—

Land,	\$1,476,947 55
Miscellaneous,	305,910 78

1,782,858 33

Neponset River Reservation:—

Land,	\$224,783 04
Miscellaneous,	46,377 97

271,161 01

Mystic River Reservation:—

Land,	\$242,533 21
Miscellaneous,	364,947 02

607,480 23

Lynn Shore Reservation:—

Land,	\$361,199 29
Miscellaneous,	243,580 01

604,779 30

Quincy Shore Reservation:—

Land,	\$73,726 26
Miscellaneous,	198,159 19

271,885 45

Winthrop Shore Reservation:—

Land,	\$51,067 32
Miscellaneous,	169,249 43

220,316 75

Hart's Hill Reservation:—

Land,	\$10,000 00
Miscellaneous,	202 35

10,202 35

King's Beach Reservation:—

Land,	\$24,297 21
Miscellaneous,	1,551 63

25,848 84

West Roxbury Parkway:—

Land,	\$244,976 01
Miscellaneous,	8,313 67

253,289 68

Wellington Bridge:—

Miscellaneous,	\$185,317 42	
	<hr/>	\$185,317 42

Nahant Beach Bath-House:—

Miscellaneous,	\$67,794 58	
	<hr/>	67,794 58

Boylston Street Bridge:—

Miscellaneous,	\$45,838 57	
	<hr/>	45,838 57

Alewife Brook Purification:—

Miscellaneous,	\$112,006 18	
	<hr/>	112,006 18

General expense,		162,774 72
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\$8,692,286 29

Sinking fund requirements to 1896, .	\$18,980 18	
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Care and maintenance to July 1, 1896, .	85,813 46	
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Care and maintenance, July 1, 1896, to Jan. 1, 1897,	19,604 06	
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Sinking fund assessment for 1897, .	63,630 70	
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Sinking fund assessment for 1898, .	9,755 55	
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Sinking fund assessment for 1899, .	64,224 00	
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Interest,	28,318 61	
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290,326 56

Total charged to Dec. 1, 1910,	\$8,982,612 85	
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METROPOLITAN PARKS LOAN FUND, SERIES II.

Blue Hills Parkway:—

Land,	\$133,492 02	
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Miscellaneous,	269,513 47	
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\$403,005 49

Middlesex Fells Parkway:—

Land,	\$256,250 12	
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Miscellaneous,	576,658 86	
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832,908 98

Mystic Valley Parkway:—

Land,	\$203,990 91	
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Miscellaneous,	314,819 55	
--------------------------	------------	--

518,810 46

Revere Beach Parkway:—

Land,	\$537,445 51	
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Miscellaneous,	858,921 01	
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1,396,366 52

Neponset River Parkway:—

Land,	\$83,941 75
Miscellaneous,	36,100 54

 \$120,042 29

Fresh Pond Parkway:—

Land,	\$44,086 25
Miscellaneous,	29,823 24

 73,909 49

Furnace Brook Parkway:—

Land,	\$166,397 77
Miscellaneous,	140,111 91

 306,509 68

Nahant Beach Parkway:—

Land,	\$80,940 78
Miscellaneous,	75,014 13

 155,954 91

Lynn Fells Parkway:—

Land,	\$40,068 46
Miscellaneous,	112,741 32

 152,809 78

Winthrop Parkway:—

Land,	\$33,589 34
Miscellaneous,	36,877 40

 70,466 74

Alewife Brook Parkway:—

Land,	\$118,105 96
Miscellaneous,	8,795 51

 126,901 47

Charles River Speedway:—

Miscellaneous,	\$521,348 66
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 521,348 66

Blue Hills Roads:—

Miscellaneous,	\$8,742 06
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 8,742 06

Middlesex Fells Roads:—

Miscellaneous,	\$57,495 50
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 57,495 50

Stony Brook Roads:—

Miscellaneous,	\$37,183 45
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 37,183 45

Lynnway:—

Land,	\$20,500 00
Miscellaneous,	124,366 10

 144,866 10

Spy Pond Parkway:—

Miscellaneous,	\$89 04	
		\$89 04
General expense,		106,985 19
		<hr/>
		\$5,034,395 81
Sinking fund requirement for 1896, .	\$3,650 03	
Sinking fund requirement for 1897, .	14,057 10	
Sinking fund requirement for 1898, .	3,765 08	
Sinking fund requirement for 1899, .	15,396 00	
One-half interest,	22,327 68	
		<hr/>
		59,195 89
		<hr/>
Total charged to Dec. 1, 1910,		\$5,093,591 70

CHARLES RIVER BASIN LOAN.

Expended from beginning of work to Dec. 1, 1910, . \$4,123,046 41

The above amount has been distributed as follows:—

Administration,	\$106,680 19	
Dam,	1,049,483 64	
Lock,	718,287 07	
Temporary bridge and approaches, .	184,816 36	
Drawbridge,	100,248 41	
Highway,	55,013 58	
Dredging, pile-driving and protection work in Basin,	142,608 50	
Broad Canal,	115,643 68	
Lechmere Canal,	51,479 36	
Boston Embankment,	827,353 95	
Boston Marginal Conduit,	635,242 96	
Cambridge Marginal Conduit,	99,418 90	
Elimination of malarial mosquitoes, .	1,173 68	
Maintenance,	35,596 13	
		<hr/>
		\$4,123,046 41

The appropriations heretofore made are as follows: —

METROPOLITAN PARKS LOAN FUND.

Original appropriation, chapter 407, Acts of 1893, .	\$1,000,000 00
First Revere Beach Act, chapter 483, Acts of 1894, .	500,000 00
Charles River Act, chapter 509, Acts of 1894, . . .	300,000 00
Second Revere Beach Act, chapter 305, Acts of 1895, .	500,000 00
General appropriation, chapter 466, Acts of 1896, .	1,000,000 00
General appropriation, chapter 464, Acts of 1897, .	500,000 00
General appropriation, chapter 530, Acts of 1898, .	1,000,000 00
Revere Beach Bath-house Act, chapter 142, Acts of 1899,	125,000 00
General appropriation, chapter 396, Acts of 1899, .	300,000 00
Charles River Improvement Act, chapter 465, Acts of 1900,	50,000 00
Fuller's Wharf Act, chapter 467, Acts of 1900, . . .	30,000 00
General appropriation, chapter 445, Acts of 1901, .	450,000 00
Mystic River Bridge Act, chapter 492, Acts of 1901, .	200,000 00
General appropriation, chapter 290, Acts of 1903, .	125,000 00
Newton Upper Falls Bridge Act, chapter 391, Acts of 1903,	40,000 00
Continuing appropriation, chapter 429, Acts of 1903, for 1903,	300,000 00
For 1904,	300,000 00
For 1905,	300,000 00
For 1906,	300,000 00
For 1907,	300,000 00
Nahant Beach Bath-house Act, chapter 326, Acts of 1904,	70,000 00
Reimbursing loan for moth expense, chapter 486, Acts of 1906,	50,000 00
Purification of Mystic River, Alewife Brook and ad- jacent watercourses, ponds and drainage areas, chapter 529, Acts of 1906,	100,000 00
Additional appropriation for purification of Mystic River, etc., chapter 529, Acts of 1907,	25,000 00
Mystic River and Winthrop Shore Act, chapter 652, Acts of 1908,	70,000 00
<hr/>	
<i>Amount carried forward,</i>	<i>\$7,935,000 00</i>

<i>Amount brought forward,</i>	\$7,935,000 00
To provide for interest and sinking fund requirements to 1900, chapter 311, Acts of 1897,	900,000 00
Total amount of loans,	\$8,835,000 00
Amounts received from sales of buildings, receipts from bath-house, fines, etc.,	198,334 01
Total,	\$9,033,334 01
Total charged to loans,	8,982,612 85
Balance,	\$50,721 16

METROPOLITAN PARKS LOAN FUND, SERIES II.

Original boulevard, chapter 288, Acts of 1894,	\$500,000 00
General appropriation, chapter 472, Acts of 1896,	500,000 00
General appropriation, chapter 521, Acts of 1897,	1,000,000 00
Saugus Bridge Act, chapter 547, Acts of 1898,	100,000 00
General appropriation, chapter 428, Acts of 1899,	500,000 00
Mattapan Bridge Act, chapter 443, Acts of 1900,	75,000 00
Winchester Act, chapter 444, Acts of 1900,	50,000 00
Revere Beach Parkway Act, chapter 445, Acts of 1900,	200,000 00
General appropriation, chapter 172, Acts of 1902,	450,000 00
General appropriation, chapter 359, Acts of 1903,	110,000 00
Continuing appropriation, chapter 419, Acts of 1903; for 1903,	300,000 00
For 1904,	300,000 00
For 1905,	300,000 00
For 1906,	300,000 00
For 1907,	300,000 00
Alewife Brook and Fresh Pond Parkway Act, chapter 651, Acts of 1908,	50,000 00
	\$5,035,000 00
To provide for interest and sinking fund requirements to 1900, chapter 311, Acts of 1897,	100,000 00
Total amount of loans,	\$5,135,000 00
Receipts from sales, etc.,	29,907 41
Total,	\$5,164,907 41
Total charged to loans,	5,093,591 70
Balance,	\$71,315 71

NANTASKET BEACH LOAN.

Appropriation, chapter 464, Acts of 1899, . . .	\$600,000 00
Appropriation, chapter 456, Acts of 1901, . . .	100,000 00
<hr/>	
Total amount of loans,	\$700,000 00
Receipts from rents, etc.,	5,881 50
<hr/>	
Total,	\$705,881 50
Total charged to loans,	\$705,881 50

CHARLES RIVER BASIN LOAN.

Bonds issued for 1904,	\$250,000 00
Bonds issued for 1905,	400,000 00
Bonds issued for 1906,	600,000 00
Bonds issued for 1907,	1,150,000 00
Bonds issued for 1908,	400,000 00
Bonds issued for 1909,	850,000 00
Bonds issued for 1910,	475,000 00
<hr/>	
Total amount of bonds,	\$4,125,000 00
Receipts added to loan,	9,340 75
<hr/>	
Total,	\$4,134,340 75
Total charged to loan,	4,123,046 41
<hr/>	
Balance,	\$11,294 34

Respectfully submitted,

JOHN WOODBURY,
Secretary.

DEC. 1. 1910.

REPORT OF THE ENGINEER.

HON. WILLIAM B. DE LAS CASAS, *Chairman, Metropolitan Park Commission.*

SIR: — I submit herewith a report of the work of the Engineering Department for the year ending Dec. 1, 1910.

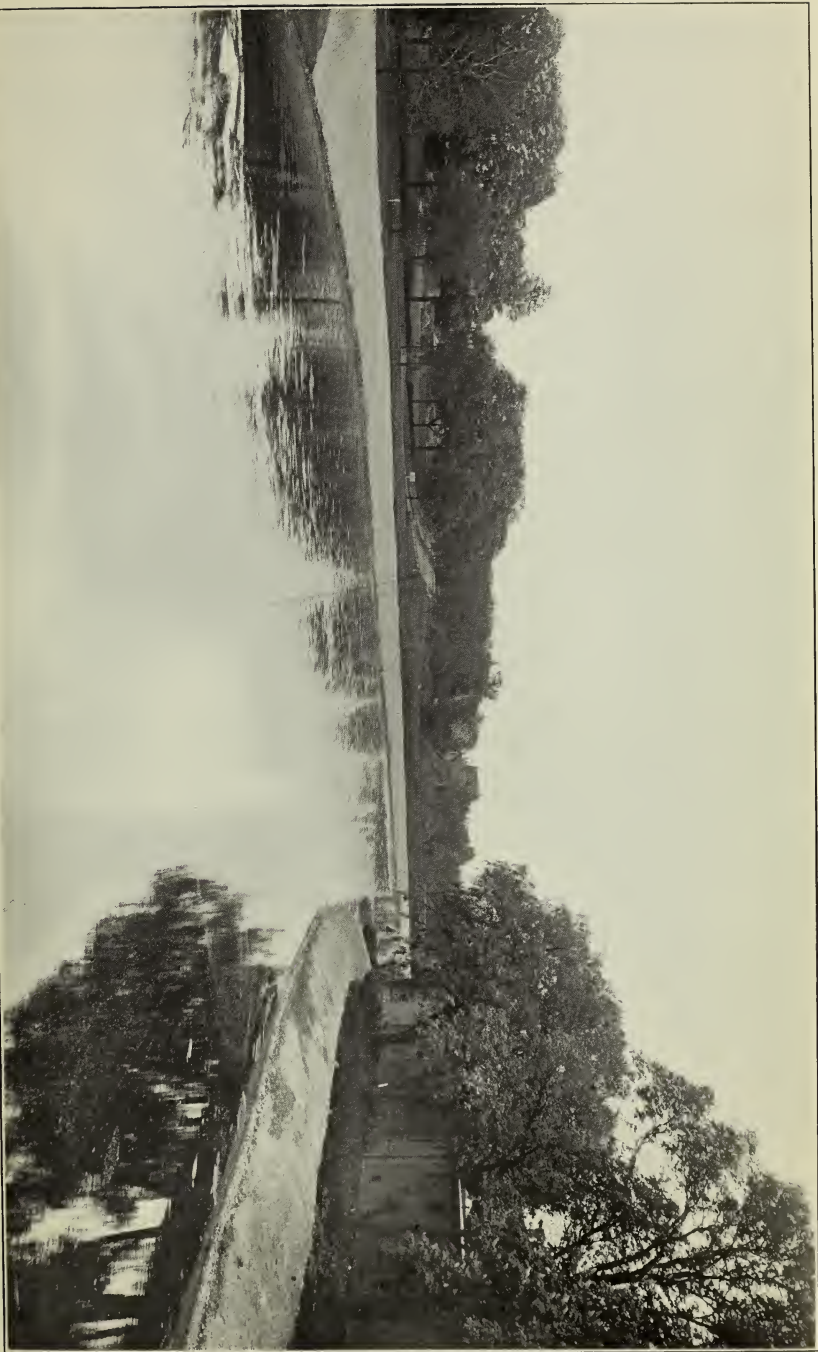
The organization of the department has remained practically the same as last year, with the exception that the engineering force of the Charles River Basin Commission was transferred to this department on July 1, 1910, and retained until the completion of the work on which they were employed. With this exception, the number of employees has averaged 21 during the year.

The construction work under the direction of this department has not been as extensive as during former years, but the maintenance work, including a large amount of repairs of damage caused by the storm of Dec. 26, 1909, has required the services of this department to a greater extent than in the past.

The work of reconstruction, repairs and maintenance of roadways has been carried on upon the same general lines, by the use of refined tars, residual asphalts and asphaltic oils. The results of the employment of these methods for the preservation of the surfaces of the roads, under the traffic existing at the present time, have been generally very satisfactory.

The work of repairs of damage by storm on the sea-shore reservations has included the construction of sea walls, bulkheads, and regrading of beach slopes.

The work which was contracted for by the Charles River Basin Commission, and was unfinished at the time the Basin was transferred to this Commission for care and control, has been completed under the direction of this department, together with various other work undertaken after the transfer.



CHARLES RIVER BASIN AS DREDGED THROUGH WATERTOWN.

Also, the maintenance and operation of the locks, sluices, drawbridge and marginal conduits have been under the direction and supervision of this department.

The estimated value of work performed and the cost of conducting the department have been as follows:—

Construction,	\$136,758 16
Equipment:—	
Offices,	\$597 12
Surveying and drawing instruments,	65 49
Total,	<hr/> 662 61
Operating expenses:—	
Engineering, surveying and clerical services,	\$23,454 10
Offices,	86 30
Supplies and repairs,	1,147 51
Travel,	392 15
Incidental expenses,	241 05
Total,	<hr/> 25,321 11
Grand total,	<hr/> \$162,741 88

An appraisal of the property in charge of the department, omitting the value of maps, plans, notes and records, is as follows:—

Office equipment,	\$2,721 65
Surveying and drawing instruments,	2,852 80
Automobile,	1,500 00
Miscellaneous equipment,	805 87
General supplies,	693 84
Total,	<hr/> \$8,574 16

Details of the work done under the direction and supervision of this department, both by contract and by the forces of the various divisions, are given in the following sections of parkway and reservation, and in the tables appended.

CONSTRUCTION.

Parkways.

Alewife Brook Parkway. — The work of excavating the new channel for Alewife Brook, which was under contract with Auguste Saucier, was not completed within the specified time; and on account of the fact that the contractor made various claims against the Commonwealth, an agreement was made between the Commonwealth and the contractor whereby his contract was terminated and the work relet.

New plans and specifications were prepared, and on April 25, 1910, the following bids for completing the work were received: —

Devincenzi & Co., Boston,	\$112,000 00
John J. Falvey, Somerville,	89,200 00
William L. Miller, Boston,	69,420 00
Cavanagh Brothers, South Boston,	66,300 00
Luke D. Mullen, Boston,	62,400 00
Wellington & McCarthy, Boston,	60,860 00
John F. Gill Company, Somerville,	57,360 00
Bruno & Petitti, Boston,	53,820 00
Coleman Brothers, Boston,	52,260 00
Eastern Dredging Company, Boston,	51,660 00

The contract was awarded to the Eastern Dredging Company, the lowest bidder, and work was begun on May 15, 1910. The funds available would permit of the construction of the new channel only as far as Little Pond, and it was necessary to omit the excavation of the short section between Little Pond and Spy Pond, the dredging of Spy Pond and other incidental work, until more funds can be provided.

The new channel from Mystic River to Little Pond is now practically completed, and is in operation for the drainage of the low lands and marshes adjacent to it and its tributaries.

The work of constructing the retaining walls for the banks of the new channel from Broadway, southerly about 1,000 feet, which was being done under contract with Bruno &

Petitti, and was in progress at the time of the last report, has been completed.

The work of underpinning the foundations of the bridges at Broadway and Massachusetts Avenue, rebuilding the abutments of the bridge of the Arlington Branch of the Boston & Maine Railroad, and lowering the branch of the Metropolitan Sewer just north of the railroad bridge, has been completed. The greater part of the work on the Broadway and Massachusetts Avenue bridges was done by the contractors for the retaining wall, under an extra order on their contract, and was completed by day labor, under the direction of this department. The work of lowering the Metropolitan Sewer was done by the Metropolitan Water and Sewerage Board, and the reconstruction of the railroad bridge abutments by the Railroad Company, the work of both up to a certain amount to be paid for out of the funds available for the purification of Alewife Brook.

Plan and specifications for the construction of a pile and timber bridge for Hill Road, over the new channel of Alewife Brook, have been prepared, and bids for its construction are to be received on Dec. 7, 1910.

The estimated cost of all work on the Alewife Brook purification to Dec. 1, 1910, has been as follows:—

Previously reported:—		
Construction and incidentals, Contract No.		
125,	\$27,685 01	
Engineering and inspection,	1,326 53	
	<hr/>	\$29,011 54
Year ending Nov. 30, 1910:—		
Construction, Contract No. 125,	\$6,000 00	
Lowering Metropolitan Sewer,	2,634 27	
Incidentals,	48 14	
Engineering and inspection,	386 25	
	<hr/>	9,068 66
Total,	<hr/>	\$38,080 20
<i>Amount carried forward,</i>		<hr/> \$38,080 20

Amount brought forward, \$38,080 20

Previously reported:—

Construction and incidentals, Contract No.

126, \$16,782 03

Underpinning Broadway

Bridge, 2,347 14

Engineering and inspection,

745 68

\$19,874 85

Year ending Nov. 30, 1910:—

Construction Contract

No. 126, \$8,368 70

Underpinning Broadway

and Massachusetts

Avenue Bridges, 6,136 04

Incidentals, 279 06

Engineering and inspection,

870 23

15,654 03

Total,

 35,528 88

Year ending Nov. 30, 1910:—

Construction, Contract No. 130, \$43,648 75

Incidentals, 221 05

Engineering and inspection, 1,763 10

Total,

 45,632 90

Grand total, \$119,241 98

Furnace Brook Parkway.— Preliminary surveys and plans have been made for a revised route for the northerly portion of Furnace Brook Parkway to connect with Quincy Shore Reservation.

The preparation of construction plans for the completion of the Parkway from Adams Street to Quincy Shore Reservation is in progress, and estimates of the cost have been made and submitted.

Winthrop Parkway.— The work of surfacing and finishing the Parkway from Charles Eliot Circle to Leverett Avenue, a portion of which was done by the forces of the division last year, has been resumed by the same forces and is about two-thirds completed. Work was begun on Sept. 17, 1910, and is now in progress.

The loam for the surfacing of the planting spaces was obtained from the Squire Estate in Revere, at a cost of 45 cents per cubic yard, loaded upon the carts; and the work of transporting it to the site of the work was done by Coleman Brothers, at agreed-upon prices, a part at 50 cents per cubic yard, and for the longer haul 60 cents per cubic yard.

The total cost of the work done this year has been \$8,127.71.

Reservations.

Charles River Reservation. — The roadways along the southerly side of the river from Cambridge Street to North Harvard Street, and along the northerly side from Mt. Auburn Street near the Cambridge Hospital westerly about 2,500 feet, have been built to subgrade. The material required for the filling of these sections was about 100,000 cubic yards, and was furnished from the excavations of the Cambridge Subway at a very moderate cost to the Commonwealth, on account of the fact that places for the disposal of this material near the site of the work were scarce. Although funds were not available for the completion of these sections of the river drives, by taking advantage of this opportunity to obtain the filling material for the rough grading a great saving has been made from the amount which the work would cost in the future, when it would be necessary to obtain it by contract.

Middlesex Fells Reservation. — The work of constructing electric railway in the Reservation by the Boston & Northern Railway Company was completed early in the spring, and the operation of cars over the line was begun on April 15, 1910.

Mystic River Reservation. — The Metropolitan Water and Sewerage Board have lowered their main water pipe where it crosses the Mystic River just above High Street, so that the bottom of the river may be excavated to the depth required for the sanitary improvements.

The work of surfacing and finishing the driveways along the river, from Powder House Boulevard, Somerville, to Main Street, Medford, which was suspended during the winter months, was resumed in the early spring and completed on

May 31, 1910, but was not opened to public travel until Aug. 2, 1910, on account of delay by the city of Medford in granting entrance to Main Street.

The total cost of the work under the contract with James H. Fannon, for surfacing and finishing the river drives from Medford Street, Arlington, to Main Street, Medford, has been as follows:—

Previously reported:—

Construction and incidentals, Contract

No. 124, \$43,342 55

Engineering and inspection, 2,399 55

\$45,742 10

Year ending Nov. 30, 1910:—

Construction, Contract No. 124, \$16,203 14

Incidentals, 1,587 35

Engineering and inspection, 1,096 51

18,887 00

Total, \$64,629 10

The work of treating the surface of the roadway in the section from Boston Avenue, Somerville, to Main Street, Medford, was omitted from the above-mentioned contract, as it was desired that the road should be subjected to traffic for about one month before applying the binder and also to use a heavier binder than was specified.

This work was done by the forces of the division in September, 1910, and by these changes much better results were obtained than on the upper section.

These roadways throughout were constructed with a broken-stone base and gravel surface.

MAINTENANCE.

Parkways.

Blue Hills Parkway.—The Boston Consolidated Gas Company have laid 6-inch gas mains in both sides of the Parkway as far as Canton Avenue, for the purpose of furnishing gas for lighting the street lamps and to supply houses along the Parkway when required. There are 80 street

lamps, which have previously been lighted by naphtha and are now operated by gas. The work of laying these mains was done during the months of October and November.

The section of the traffic, or westerly, road from Neponset River to Blue Hill Terrace, a distance of 4,000 feet, was resurfaced with broken stone and tar during the year. The method employed was to clean and scarify the surface of the roadway, add sufficient new stone to properly shape and crown the surface, and, after rolling, apply the tar by the grouting or penetration method. The tar was applied at a temperature of about 175° F. from tank wagons by means of a gravity distributor attached to the rear of the wagon. This work was done by the forces of the division, under the direction and supervision of this department. The details of the cost of the work are given in appended Table No. 3.

Lynnway. — About 2,250 lineal feet of fiber duct conduit have been laid from Point of Pines Station to the Saugus River Bridge, for the purpose of obtaining electric power for the operation of the drawbridge by electric motors. The drawbridge has been operated since its construction, in 1905, by means of gasoline engines; but it is now estimated that it may be more economically operated by electric motors, and arrangements are in progress for such equipment.

Middlesex Fells Parkway. — A total length of about 3,375 lineal feet of granolithic walks, 4 feet in width, has been built in the Fellsway East section. These walks are located generally in the center of the existing walks, which vary in width from 6 to 9 feet.

The abutters on the Parkway through the section from Central Avenue and Medford Street to Salem and Pleasant streets, and on Fellsway East as far as Maple Street, were given an opportunity to have these walks constructed along their frontage, provided they paid one-half the cost. A portion of the amount constructed has been so paid for, and the balance was on locations where the abutting property was owned or controlled by the Commonwealth.

The bids for this work were received, together with bids for granolithic work at Revere Beach Reservation, and one contract was made to cover the work at both locations.

The bids were received on Sept. 26, 1910, and were as follows:—

W. A. Murtfeldt Company, Boston,	\$4,440 00
Adams, Pond Company, Boston,	4,350 00
Simpson Brothers Corporation, Boston,	3,915 00
Thomas J. Hind Company, Boston,	3,780 00
Warren Brothers Company, Boston,	3,708 75

The contract was awarded to Warren Brothers Company, the lowest bidders. The work on this section was begun on Oct. 12, 1910, and discontinued on account of unsuitable weather conditions on Nov. 30, 1910. The estimated cost of the work on this location to Dec. 1, 1910, has been as follows:—

Construction, Contract No. 135,	\$2,229 04
Incidentals,	6 60
Engineering and inspection,	439 90
<hr/>	
Total,	\$2,675 54

The easterly roadway of the Parkway from Salem and Pleasant streets to Medford Street, a total length of 3,500 feet, 36 feet in width, has been resurfaced with gravel. This roadway was originally constructed of macadam, but, on account of the fact that the westerly roadway was recently resurfaced with broken stone with tar binder, it was thought advisable to resurface the westerly roadway with gravel treated with heavy asphaltic oil, so as to provide a surface more suitable to horse traffic.

The method of doing this work was to clean and scarify the old surface, and cover with a layer of new binding gravel about 2 inches in thickness. After this was thoroughly rolled with sectional horse rollers and steam roller it was treated with heavy asphaltic oil at the rate of about three-quarters of a gallon to the square yard. The details of the cost of this work are given in appended Table No. 3. The work was done by the forces of the division.

In the grant of location to the West End Street Railway Company for the electric railway through this Parkway, pro-

vision was made that the company should furnish power free of cost for the operation of the drawbridge of Wellington Bridge over the Mystic River. To take advantage of this provision it was necessary to change the motor from an alternating to a direct-current motor.

The new motor was purchased from the Boston Elevated Railway Company, and the work of making the change was done between February and July of this year, by Herbert J. Odell. The total cost of the work, including the motor and other materials, was \$578.37.

Mystic Valley Parkway.—Sections of the roadway between High Street, Medford, and Walnut Street, Winchester, which were originally constructed on poor subgrade, and in winter and spring were in very bad condition, have been reconstructed with broken-stone base and gravel surface, and treated with heavy asphaltic oil. Where necessary, the subgrade has been drained. A total length of about 7,000 lineal feet of 36-foot roadway has been so reconstructed. The work was done by the forces of the division, and details of the cost are given in Table No. 3.

Revere Beach Parkway.—A section of the roadway just west of Broadway, Revere, about 1,200 feet in length, in which the subgrade was very springy and the roadway surface was maintained with difficulty, has been excavated, underdrained, and reconstructed with about 12 inches of gravel screenings under the macadam surfacing. About 1,600 cubic yards of clean gravel screenings were required, and were obtained from the bank washed up by the storms against the sea wall at Winthrop Shore Reservation. The work on this section of roadway was done by the forces of the division, and details of the cost are given in Table No. 3.

About 3,135 lineal feet of fiber duct conduit have been laid in the northerly side of the Parkway from Main Street, Everett, to the Malden River Bridge, to carry cable for electrical operation of the drawbridge, as in the case of Saugus River Bridge, previously described.

Reservations.

Blue Hills Reservation. — Engineering services have been furnished for construction of roads in the Reservation, the work being done by the forces of the division.

Charles River Reservation. — Plans and specifications have been prepared for constructing the extension of the Charles River Road to Watertown Square. The following bids were received for the work on Sept. 28, 1910: —

James Driscoll & Son, Brookline,	\$10,765 00
Fred S. & A. D. Gore Corporation, Dorchester,	10,556 25
T. Stuart & Son Company, Newton,	10,021 00
P. Maloy & Son, Waltham,	9,523 50
Martin & Condon, Watertown,	9,129 50
Rowe Contracting Company, Brighton,	8,873 25
James H. Fannon, Somerville,	8,562 50

James H. Fannon was the lowest bidder, and was awarded the contract. The work was begun on Oct. 4, 1910, and is now practically completed, with the exception of treating the surface with asphaltic oil, seeding of planting spaces and final rolling of walks and a small portion of roadway, which it will be necessary to postpone doing until spring, as the winter weather is unsuitable for this class of work.

The work consisted of grading, drain construction, surfacing of planting spaces, roadways and walks.

The estimated cost of this work to Dec. 1, 1910, has been as follows: —

Construction, Contract No. 134,	\$7,826 24
Incidentals,	191 27
Engineering and inspection,	430 53
<hr/>	
Total,	\$8,448 04

Engineering services have been furnished for the construction of a half-mile oval track at the Speedway. The work has been done by the forces of the division, but is not yet completed.

Lynn Shore Reservation. — The work of repairs of damage done to walks, roadways and planting spaces by the storm

COMMONWEALTH OF MASSACHUSETTS
METROPOLITAN PARK COMMISSION
— MAP OF —
ALEWIFE BROOK PARKWAY
CAMBRIDGE, SOMERVILLE,
ARLINGTON,
BELMONT

SCALE
0 500 1000 FT

December 1910. John R. Rablin, Engineer.



of last December has been done by the forces of the division, under the supervision of this department. The repairs to sea walls are not yet entirely completed. The cost of this work to Dec. 1, 1910, has been \$700.75.

Middlesex Fells Reservation.—Engineering services have been furnished for the construction of a new reinforced concrete tower on Bear Hill, which was designed by, and has been built under the direction of, Stickney & Austin, architects. Services have also been furnished for the work of rearrangement and construction of buildings at headquarters on Pond Street.

Mystic River Reservation.—Work of dredging in the river for the purpose of deepening and straightening the channel for the sanitary improvement of Mystic River and Alewife Brook, which was suspended last fall on account of lack of funds, has been resumed. On Aug. 3, 1910, the following bids were received:—

Lawler Brothers, Charlestown,	\$45,750 00
Coleman Brothers, Boston,	26,000 00
Eastern Dredging Company, Boston,	14,230 00

The contract was awarded to the Eastern Dredging Company, the lowest bidder; but, on account of delays in awarding contract, and the necessity of constructing special dredging plants for this work, the work was not begun until Nov. 22, 1910, and is now in progress. It is expected that the amount of work required under this contract will complete the new channel from Lower Mystic Lake to Cradock Bridge, and will be finished next summer.

Some slight changes have been made in the operating machinery and the gaskets of the lock gates at Cradock Bridge Dam, to facilitate their operation. It was found that, on account of some leakage around the butterfly filling gates and around the frames of the large lock gates, it was impossible to exactly equalize the pressure of the water on the gates; and, as they are operated by hand, the power required to overcome the slight head of water was too great at the starting of the gate from its bearing. Two or three men

were required to start the gate, whereas one man could easily handle it afterwards.

To remedy this trouble, new special gaskets were designed and placed around the lock gate bearings and the filling gate bearings, and locks also designed and installed on the butterfly filling gates to allow a pressure to be brought against them to make them seat tightly. Also, additional gears were installed in the operating stands, to increase the power. These changes proved effective, and no trouble has since been experienced in their operation.

Nantasket Beach Reservation. — The amount of refuse collected at this Reservation has increased to such an extent that the practice of burning it upon the beach became somewhat of a nuisance, and it was deemed necessary to provide other means for its disposal.

Plans were prepared by this department for the construction of an incinerator, which was built last spring, and has been in use during the past season.

The furnace is built of brick, and is located in the rear of the boiler house. By this location the expense of building a large stack was avoided, as it was connected with the existing stack of the boiler house.

The work was done by the forces of the division, and by day labor, under the direction and supervision of this department, and the total cost was \$659.18.

The hotel laundry has been remodelled, and concrete floors and wainscoting have been laid. The concrete work was done by Warren Brothers Company under the direction of this department, and the total cost was \$496.80.

The work of repairs of damage done by the storm of last December has been done by the forces of the division, and by day labor, under the direction and supervision of this department. The work consisted of repairs to old bulkheads and construction of new ones, and the rebuilding of considerable portions of the foundations of Nantasket Hotel, which were destroyed. Also, the construction of foundations for columns for remodelling a portion of the hotel was done under the supervision of this department.

In October of this year the surface of the county road,

which runs through the Reservation its entire length, and is in the care and control of this Commission, was scarified and resurfaced. The roadway is built of gravel, and although the surface was in poor condition, on account of cup holes, the material when broken up was still good, and very little new material was required. Before scarifying, the worn-out material was removed.

Quincy Shore Reservation.—The storm of December, 1909, caused considerable damage along this Reservation. The beach throughout its entire length was badly washed out above the ordinary high-water mark, and the bluffs at the southerly end of the Reservation and at the point known as Rufe's Hummock were cut back from 15 to 20 feet, and bulkheads destroyed.

The work of repairing this damage was done by the forces of the division, under the direction and supervision of this department. The work of resurfacing the beach slopes was done by horse scrapers, the material being taken from the shore near the low-water mark. This work was carried on from time to time as the tides were favorable for low-water work, and the teams and men were employed on other work on the Reservation when the tide was in.

At the bluffs about 800 lineal feet of concrete sea wall were constructed, to prevent further washing away. This work was done by day labor, by the forces of the division, under the direct charge of an inspector of this department, and good results were obtained by this method, both as to cost and workmanship.

At some points the waves washed over on to the roadway, and this necessitated a considerable amount of cleaning and repairs to the surface.

The total cost of the work of storm-damage repairs has been as follows:—

Sea wall at National Sailors' Home Hummock,	\$2,032 03
Sea wall at Rufe's Hummock,	869 67
Regrading beach, repairs to roadway and miscellaneous repairs,	3,809 88
Total,	<hr/> \$6,711 58

A sanitary has been constructed on the land owned by the Commonwealth at the corner of Bromfield Street and the Reservation.

An entrance for Bromfield Street into the Reservation Drive has been constructed, together with incidental work, such as grading slopes and building concrete steps, edgestone and driveway entrances on abutting property, which work was necessary on account of the change of grade of Bromfield Street to meet the grade of the Reservation Drive. This work was done by the forces of the division, except the concrete work, which was done by Warren Brothers Corporation. The total cost to date of constructing this entrance, including incidental work, has been \$720.50.

Revere Beach Reservation. — A granolithic walk 6 feet in width has been laid in the center of the easterly promenade from the Revere Street Shelter to Charles Eliot Circle, a total length of about 4,000 feet, or 3,100 square yards.

On May 5, 1910, the following bids were received for the above work: —

Adams, Pond Company, Boston, . . .	\$1.25	per square yard.
Coleman Brothers, Boston, . . .	1.23	per square yard.
W. A. Murtfeldt Company, Boston, . . .	1.14	per square yard.
Thomas J. Hind Company, Boston, . . .	1.08	per square yard.
Warren Brothers Company, Boston, . . .	1.04½	per square yard.
Simpson Brothers Corporation, Boston, . . .	.98½	per square yard.

The contract was awarded to Simpson Brothers Corporation, the lowest bidders. The work was begun on May 9, 1910, and completed June 14, 1910.

The prices bid included the excavation for subgrade, but the reason of the low price for the work was that the contractor was allowed to obtain gravel and sand from the shore for use in the work.

The total cost of this work was as follows: —

Construction, Contract No. 132,	\$3,179 27
Incidentals,	10 55
Engineering and inspection,	172 33
<hr/>	
Total,	\$3,362 15

This Reservation suffered to a great extent from the storm of last December, and the cost of repairs and protection against future damage was greater than on any other reservation.

At Charles Eliot Circle the old pile and timber bulkhead was almost entirely destroyed, and the shore badly scoured out. This section of shore is particularly exposed, and receives severe treatment at times of storm, and it has always been difficult to maintain the wooden bulkhead. It has, therefore, been replaced by a heavy concrete sea wall about 800 feet in length, with the center portion of a circular form, to conform to the roadway layout.

It was provided in the specifications for this work that the contractor might obtain the sand and gravel for the work from land of the Commonwealth at Winthrop Shore Reservation, as a large amount had been washed up on the roadway and walks by the sea. The contractor for the work took advantage of this provision, and so obtained the greater part of his material, and by so doing a large part of the expense of clearing the Winthrop Shore Reservation driveway was saved to the Commonwealth, and a low price was obtained for the work of building the sea wall.

On April 20, 1910, the following bids were received for the construction of the sea wall:—

D. F. O'Connell & Co., Boston,	\$27,770 00
John J. Falvey, Somerville,	27,040 00
Bruno & Petitti, Boston,	26,260 00
Devincenzi & Barruffoldi, Boston,	21,671 00
The Belvilacqua Construction Company, Boston,	21,605 80
Lawler Brothers, Charlestown,	19,960 00
Luke D. Mullen, Boston,	18,745 00
Coleman Brothers, Boston,	18,494 00
John E. Palmer, Boston,	18,168 00
James H. Fannon, Somerville,	17,895 00
John Cashman & Sons Company, West Quincy,	17,855 00
W. H. Ellis, Boston,	15,610 00

The contract was awarded to W. H. Ellis, the lowest bidder. The work was begun on April 29, 1910, and completed on Sept. 17, 1910.

An agreement was made with the same contractor to supply additional material for backfilling behind the wall. The material for this purpose was obtained from the shore in front of the wall.

The total estimated cost of the work under this contract, including the backfilling work, was as follows:—

Construction, Contract No. 128,	\$13,628 42
Filling material,	1,605 00
Incidentals,	95 24
Engineering and inspection,	1,097 09
<hr/>	
Total,	\$16,425 75

Along the top of the sea wall a promenade, 15 feet in width, has been constructed of granolithic. The amount laid was about 1,500 square yards. On Sept. 26, 1910, bids were received for this work, together with the bids for granolithic work on Middlesex Fells Parkway, and one contract was made for the work at both locations. The bids were as follows:—

W. A. Murtfeldt Company, Boston,	\$4,440 00
Adams, Pond Company, Boston,	4,350 00
Simpson Brothers Corporation, Boston,	3,915 00
Thomas J. Hind Company, Boston,	3,780 00
Warren Brothers Company, Boston,	3,708 75

The contract was awarded to Warren Brothers Company. The specifications for the work at Revere allowed the use of gravel and sand from the shore, as in previous contracts on this Reservation, thereby obtaining lower prices for the work. The work was begun on Oct. 10, 1910, and completed on Nov. 2, 1910.

The total estimated cost of this portion of the work has been as follows:—

Construction, Contract No. 135,	\$1,460 00
Incidentals,	2 40
Engineering and inspection,	131 02
<hr/>	
Total,	\$1,593 42

A galvanized-iron pipe rail fence was built upon the sea wall. This work was done by the forces of the division, under the direction of this department. The posts for this work were made up from the broken posts recovered from the fence destroyed by the storm at Winthrop Shore Reservation.

Loam for surfacing the planting spaces of the area made by the construction of the sea wall was obtained from the Squire Estate in Revere, at a cost of 45 cents per cubic yard, loaded upon the carts. The work of transporting the loam was done by Coleman Brothers, at an agreed upon price of 50 cents per cubic yard. About 1,663 cubic yards were required for this work.

The easterly promenade was damaged to a more or less extent by the sea throughout the entire length of the Reservation, and portions of the roadway were covered with rubbish, sand and gravel. Also, portions of the outer edgestone of the easterly promenade were undermined and washed out. The roadway and walks were cleaned and resurfaced and edgestones reset. This work was done by the forces of the division.

In the section of the beach between the Bath-house Shelter and Revere Street Shelter, a distance of about 1,500 feet, and at the northerly end of the Reservation, a total length of about 3,000 feet, the wooden bulkheads were badly damaged or destroyed by the storm. These have been replaced by new wooden bulkheads, constructed by driving spruce and oak piles and planking the face of these piles with 2-inch spruce. It has been our experience that as long as these bulkheads can be maintained in sound condition, the gravel and sand which is washed over them by the waves is retained, and the shore built out. It is not deemed advisable to construct permanent structures to protect these low points in the shore until it can be built up by some such method, as the expense of building permanent structures which could be maintained would be excessive. The work of driving the piles for these bulkheads was done by W. S. Rendle & Son, who were the lowest bidders, and the work of building the plank facings was done by the forces of the division.

The total cost of the work of constructing bulkheads, to Dec. 1, 1910, has been \$3,069.64.

Stony Brook Reservation. — Engineering services have been furnished for the work of building to subgrade the southerly border road.

Winthrop Shore Reservation. — The damage caused to this Reservation by the December storm was, to general appearances, more extensive than on any other. The total cost of repairs, however, was not so great as at Revere Beach Reservation, on account of the fact that the shore was protected by a substantial granite sea wall, which withstood the severe treatment very well, except in the case of the capping or top course and the fence and granolithic walks thereon. About 1,200 lineal feet of this capping was raised up by the force of the waves and moved back from the face of the wall from 1 to 5 feet, and in some instances stone weighing from 2 to 4 tons were moved back 25 to 30 feet. These cap stones were laid in cement mortar, and fastened to the main wall with iron dowells. These dowells were either broken off or bent over.

The iron pipe rail fence on the portion of the wall where the capping was moved was broken down and generally damaged beyond further use. Other sections of fence along the wall were damaged.

The granolithic walks along the sea wall were entirely destroyed where capping was moved or the wall damaged, and some edgestones and brick gutters were damaged.

On March 23, 1910, bids were received for the work of repairing walls, resetting capping, edgestone and gutters and relaying granolithic walks from the following: —

Warren Brothers Company, Boston,	\$4,417 50
Rowe Contracting Company, Brighton,	4,361 00
Simpson Brothers Corporation, Boston,	4,360 00
Coleman Brothers, Chelsea,	2,916 50

The contract was awarded to Coleman Brothers, the lowest bidders. The work was begun on April 12, 1910, and completed on May 31, 1910.



REVERE BEACH RESERVATION.

Bulkhead replaced by Wall at Charles Eliot Circle.

The repointing of the joints in the masonry wall, considerable of which was necessary, was done under an extra order on this contract.

The total estimated cost of the work under this contract was as follows:—

Construction, Contract No. 127,	\$3,470 45
Incidentals,	256 72
Engineering and inspection,	368 20
<hr/>	
Total,	\$4,095 37

On April 6, 1910, the following bids were received for the work of building a new galvanized-iron pipe rail fence on the sea wall to replace the sections destroyed or damaged:—

W. A. Snow Iron Works, Inc., Boston,	\$2,980 00
Puritan Iron Works, Boston,	2,580 00
Richardson & Clement, Boston,	2,495 00
A. Johanson & Co., South Boston,	2,200 00
Broad Gauge Iron Works, Boston,	2,140 00
Vulcan Rail and Construction Company, Brooklyn, N. Y.,	1,960 00

The contract was awarded to the Vulcan Rail and Construction Company, the lowest bidders. The work of building the fence in the shops was begun immediately, and the work of erection begun on June 2, 1910, and completed on July 9, 1910. There were 2,237 lineal feet of fence built, together with a small amount of extra work, and the total estimated cost was as follows:—

Construction, Contract No. 129,	\$2,218 16
Incidentals,	29 04
Engineering and inspection,	75 15
<hr/>	
Total,	\$2,322 35

Ten flights of wooden steps, extending from the promenade down to the beach, were destroyed, and were replaced by new

ones. Only two proposals were received for this work, and it was awarded to Wm. H. Graham, the lowest bidder, for \$507.40.

A large amount of gravel and sand was washed up from the beach onto the roadway and walks. A portion of this material was removed by the contractor for the work of building concrete sea wall at Charles Eliot Circle, Revere Beach Reservation, for use in his work, as it was provided in the specifications for that work that he would be allowed so to do. The balance of the work of clearing the roadways and walks was done by the forces of the division.

The beach in front of the stone masonry sea wall at the Grover Cliff end of the Reservation was badly scoured out by the effects of the storm, and it was deemed advisable to protect it from undermining by constructing toe wall at the base. This work was done by day labor, and the total cost was \$1,025.95.

Upon examination, it was found that the deck plank of the bridge over the Boston, Revere Beach & Lynn Railroad at the northerly end of the Reservation was in very bad condition, and an entirely new deck was required. This work was begun in November by the forces of the division, and is now in progress. The wooden block pavement on the surface was removed, and will be relaid, as it is still in good condition. Some of the floor timbers were also found in bad condition, and have been replaced with new.

GENERAL.

The work of maintenance of, and repairs to, the roadways in the Reservations and Parkways has been done by the forces of the various divisions, under the direction and supervision of this department. Refined tars and asphaltic oils have been generally used in the work, and have proved satisfactory, both in results and from an economical point of view. Details of this work of road repairs and treatments are given in the appended Table No. 3, and no further description is necessary.

The bridges under the care and control of this Commission

have been inspected and report made to the Secretary of their condition, with recommendations for necessary repairs.

One hundred and thirty-one permits for work in the parkways and reservations have been granted during the year to cities, towns, corporations and individuals, which have required the supervision and inspection of this department, and the total cost of this inspection has been \$491.95.

CHARLES RIVER BASIN.

On July 1, 1910, the Dam and Basin were transferred to the care and control of this Commission, and the engineering force of the Charles River Basin Commission was transferred to this department. This force was gradually reduced as the work upon which the men were engaged was completed, and was entirely abolished about Nov. 1, 1910.

The work under a few of the contracts made by the Basin Commission was incomplete at the time of the transfer, including that of surfacing the main portion of the Dam and some of the fence construction. Other work done under the direction of this department includes the building of return walls at the entrances from Back Street; a retaining wall for Back Street, south of Massachusetts Avenue; building of brick catch-basins and drains on the roadway on the Dam; the installation of motors for the operation of the filling gates of the small boat lock; the enlargement of the boat berths at the boat house; repairs to the granite block pavement of the roadway on the Dam; and the replanking of the surface of the drawbridge.

The work of surfacing the main portion of the Dam, which was under contract with Coleman Brothers, and in progress at the time of the transfer of control, was completed Aug. 11, 1910, and the total estimated cost of this work was \$33,323.52. The work under this contract included laying cast-iron water pipes and surface-water drains, building catch-basins and walks, furnishing about 14,000 cubic yards of loam, and grading, rolling and seeding the same.

The fence contracts which were incompleated were with the Vulcan Rail and Construction Company. One was for the

construction and erection of a picket fence about 6 feet high, around both sides of the Lock and around the lock-gate houses. The pickets in this fence were $\frac{7}{8}$ inch square, and spaced about 4 inches on centers, and the fence was galvanized in sections after being assembled. This work was completed Aug. 18, 1910, and the total estimated cost was \$8,196.72. Another incompleted contract with the Vulcan Rail and Construction Company was for furnishing and erecting iron fence along the Basin wall at the Dam, including the approach to the sluices, and along the northerly wall of Lechmere Canal between the sluices and Commercial Avenue, Cambridge. This work was completed July 18, 1910, and the total estimated cost was \$3,564.

Six special lamp posts for the boat landings at Harvard and Cambridge bridges have been furnished by the Vulcan Rail and Construction Company, and have been erected.

Plans had been prepared and a contract let by the Charles River Basin Commission for laying three 15-inch pipes from the overflow chambers of the Boston Marginal Conduit to the old sea wall along Back Street at Gloucester, Berkeley and Pinckney streets, for the purpose of raising the ground-water level in the vicinity of the Basin. This work had not been begun at the time of the transfer, and was started on July 6, 1910, and completed July 26, 1910. The work was done by James Driscoll & Son.

The openings for the walks of the embankment in the parapet wall constructed along the northerly side of Back Street, by private parties, had an unfinished appearance, and to remedy this, short return walls 4 feet in length and 18 inches wide were built on each side of the walks. These were built by James Driscoll & Son, who built the main wall, and who submitted the lowest proposal. The work was begun July 26, 1910, and completed Aug. 15, 1910.

A section of retaining wall about 65 feet long on the northerly side of Back Street, and extending upstream from the Boston end of Harvard Bridge, was built by Coleman Brothers, the lowest bidders. The work was begun on Sept. 6, 1910, and completed Sept. 16, 1910, and the total cost was \$190.

On account of the continued settlement of the filling for the roadway on the Dam, temporary wooden catch-basins and drains of broken stone had been constructed, and these answered their purpose for a time; but during the latter part of the summer their operation was unsatisfactory, and the surface water after a heavy rain did not drain off readily.

In September and October the permanent catch-basins of brick masonry were built, and the vitrified pipe drains laid to connect them with the outlets through the harbor wall. On account of the difficulty of doing this work and maintaining traffic on the roadway at the same time, the work was done by day labor, under the direct supervision of this department.

On examination of the lock-gates, it was found that they were very much in need of repainting, and some of the filling gates needed repairs. It was intended to make these repairs in August of this year, but on account of objection of the United States Engineers' Office it has been postponed until February, 1911.

Until Aug. 20, 1910, the small boat lock was operated for the passage of boats only on Saturdays, Sundays and holidays, and during the other days of the week they were put through the large lock. The number desiring to pass, however, increased to such an extent that it was decided, to be more economical, to operate it daily from 6 A.M. to 10 P.M., instead of using the large lock for small boats. The daily operation of the small boat lock was continued from Aug. 20 to Oct. 16, 1910, and as the traffic then decreased considerably, the Saturday and Sunday operation was resumed.

The filling gates of the small boat lock were originally operated by hand, but on account of the slowness of this method, plans had been prepared and orders placed by the Charles River Basin Commission for equipment for motor operation. The installation of this equipment was completed Aug. 13, 1910, and since then the time of locking boat through has been reduced from about 15 minutes to 3 minutes, and two men required in each shift, instead of three.

The entire conduit and overflow chambers connected there-

with were thoroughly cleaned and flushed during the week ending Sept. 24, 1910. One of the tide gates near the upper lock-gate house was found to have broken loose and floated down to the 60-inch pipe outlets. It was returned and rehung with new 2-inch tobin bronze hinges, in place of the cast-iron hinges which had failed.

The tide gates at the outlet of the Boston Marginal Conduit were inspected Oct. 24, 1910, and new gaskets placed on both gates where required.

The granite block pavement on the roadway of the Dam has required repairs from time to time, on account of the settlement of the fill. From Nov. 16 to Nov. 30, 1910, final repairs were made before winter weather, and about 1,670 square yards were taken up and relaid, at a total cost, including cost of sand, of \$738.26.

The surface of the drawbridge was replanked with 2-inch spruce about the last week of November. This work was done by the maintenance force of the Dam, on Sundays, when the traffic on the roadway is light.

The surface of the embankment road was given a treatment of refined tar, covered with pea stone and rolled. This work was done by the maintenance force under Superintendent West, during October.

It was found that the berths provided in the boat house at the entrance to Lechmere Canal were not long enough to accommodate the boats which this Commission found it necessary to purchase for the policing of the river. Two of the berths were lengthened by cutting out the concrete masonry and pile foundations and excavating the material underneath, one about 2 feet and one 8 feet. It was necessary to employ the diver connected with the force at the Dam on a part of this work, as it was under water. The cost of the work was \$334.24.

The following is a record of the traffic and freights at the boat locks from July 1, 1910, to Dec. 1, 1910: —

Main Lock.

Number of openings, 1,920; number of vessels, 1,727; and 1,906 motors.

Coal, . . .	134,997 tons.	Lumber, . .	11,562,500 ft. B. M.
Stone, . . .	7,125 tons.	Oil, . . .	62,800 bbls.
Sand, . . .	10,708 tons.	Loam, . . .	8,273 cu. yds.
Gravel, . . .	2,095 tons.	Piling, . .	218,696 lin. ft.
Paving block, .	150 tons.	Tar, . . .	410 bbls.
Miscellaneous, .	473 tons.	Wood, . . .	200 cords.
Fireworks, . .	2 tons.	Molasses, .	3,067 bbls.

Small Boat Lock.

Number of openings, 1,692; number of boats, 2,482.

The following tables are appended to this report:—

TABLE 1. Lengths of parkways.

TABLE 2. Summary of plan work.

TABLE 3. Summary of cost of road repairs and maintenance.

TABLE 4. Prices for items of construction.

Respectfully submitted,

JOHN R. RABLIN,
Engineer.

DEC. 1, 1910.


TABLE 1. — *Length of Parkways, corrected to Dec. 1, 1910.*

DESCRIPTION.	Constructed (Miles).	Under Con- struction (Miles).	Remainder (Miles).	Totals (Miles).
Alewife Brook: Mystic River to Spy Pond, Somerville, Arlington, Cambridge and Belmont,	-	-	3.19	3.19
Blue Hills: Mattapan Square to Harland Street Entrance of Blue Hills Reservation, Boston and Milton,	2.27	-	-	2.27
Fresh Pond: Mount Auburn Street to Huron Avenue, Cambridge, . . . . .	.52	-	-	.52
Furnace Brook: Quincy Shore Reservation to Blue Hills Reservation, Quincy,	1.49	.84	1.99	4.32
Lynn Fells Parkway: Middlesex Fells Reservation to Green Street, Stoneham and Melrose, . . . . .	.68	.36	-	1.04
Lynnway: Revere Beach Reservation, to northerly side of Saugus River, Revere and Lynn, . . . . .	.69	-	-	.69
Middlesex Fells: Broadway to Middlesex Fells Reservation, Somerville, Medford and Malden,	5.11	-	-	5.11
Mystic Valley: High Street to Middlesex Fells Reservation, Medford and Winchester,	2.90	-	-	2.90
Nahant Beach: Lynn Line at Washington Street to Spring Road, Nahant, . . . . .	.25	-	1.98	2.23
Neponset River: junction of River Street and Damon Street to Blue Hills Reservation, . . . . .	.53	-	1.71	2.24
Revere Beach: Revere Beach Reservation to Middlesex Fells Parkway and Mystic River Reservation, Revere, Chelsea, Everett and Medford,	5.24	-	-	5.24
Winthrop Parkway: Charles Eliot Circle to Leverett Avenue, Revere, . . . . .	.25	.07	.10	.42
Totals,	19.93	1.27	8.97	30.17

TABLE 2.—*Summary of Maps and Plans prepared during the Year ending Nov. 30, 1910, omitting Blue and Other Prints.*

	Abandonments and Conveiances.	Construction.	Copies.	Entrances.	General.	Land and Settlement.	Restrictions.	Takings and Conve- nances to Common- wealth.	Topographical.	Working Plans (Office).	Totals.
<i>Parkways.</i>											
Alewife Brook,	7	8	-	-	3	2	7	3	-	2	32
Blue Hills,	1	2	-	-	1	-	-	2	-	-	5
Furnace Brook,	2	-	-	-	2	1	-	5	-	-	10
Fresh Pond,	-	-	-	-	-	2	-	1	-	-	3
Lynnway,	-	2	-	-	-	-	-	-	-	-	2
Lynn Fells,	-	5	-	-	-	1	-	1	-	21	28
Middlesex Fells,	-	3	-	-	-	1	1	2	-	2	9
Mystic Valley,	-	1	-	-	-	1	1	2	2	-	7
Nahant Beach,	-	5	-	-	-	-	-	-	-	-	5
Neponset River,	2	-	-	-	-	-	-	1	-	-	3
Old Colony,	-	-	-	-	-	1	-	-	-	-	1
Revere Beach,	11	-	-	-	4	-	1	6	-	-	22
Winthrop,	-	2	-	-	-	-	-	2	-	1	5
Totals,	22	28	-	-	10	9	10	25	2	26	132
<i>Reservations.</i>											
Blue Hills,	-	-	-	-	1	-	-	-	-	5	6
Beaver Brook,	2	-	-	-	-	-	-	-	-	-	2
Charles River,	7	19	8	-	12	9	2	6	-	10	73
Hart's Hill,	-	-	-	-	-	-	-	2	-	-	2
Lynn Shore,	-	1	-	1	-	1	3	-	-	1	7
Middlesex Fells,	-	11	-	-	1	-	-	2	3	2	19
Mystic River,	1	13	-	-	-	-	-	-	-	39	53
Nantasket Beach,	-	-	-	-	3	-	-	-	-	-	3
Neponset River,	9	-	-	-	-	-	-	1	-	1	11
Quincy Shore,	3	6	-	-	1	-	-	1	-	5	16
Revere Beach,	1	15	-	-	-	-	-	1	-	3	20
Stony Brook,	2	-	-	-	-	-	-	-	-	-	2
Winthrop Shore,	1	7	-	-	-	-	-	-	-	-	8
Totals,	26	72	8	1	18	10	5	13	3	66	222
Miscellaneous,	-	2	-	-	9	-	-	-	-	-	11
Grand totals,	48	102	8	1	37	19	15	38	5	92	365

TABLE 3. — Summary of Cost of Road Repairs and Maintenance, 1910.

PARKWAY OR RESERVATION.	Length (Feet).	Width of Roadway (Feet).	Square Yards.	COST PER SQUARE YARD IN DETAIL.						Total Cost (Cents).	Remarks.	Location.	
				Labor (Cents).	Gravel (Cents).	Broken Stone (Cents).	Sand (Cents).	BITUMINOUS BINDER OR DUST LAYER					
								Kind of Material.	Gallons per Square Yard.				Cost (Cents).
Blue Hills Parkway,	7,600	36	30,400	.008	-	-	-	Asphaltolene  (Good Roads Improvement Company).	.21	.016	.024	Surface treatment, Mattapan Bridge to Canton Avenue.	
Blue Hills Parkway,	1,650	26 and 30	5,500	.103	-	.160	-	Tarite-asphalt (American Tar Company).	2.55	.248	.511	Resurfacing, Mattapan Bridge to Brook Road.	
Blue Hills Parkway,	2,000	26	5,778	.118	-	.114	-	Tarine (American Tar Company).	2.43	.200	.432	Resurfacing, Brook Road to Decker Street.	
Charles River Reservation.	9,200	60 and 40	54,220	.022	.002	-	-	Calcium chloride,	-	.013	.037	Surface treatment, Soldiers' Field Road.	
Charles River Reservation.	2,100	45	9,578	.031	-	.031	-	Tarvia (Barrett Manufacturing Company).	.60	.053	.115	Surface treatment, Embankment Road Lower Basin.	
Fresh Pond Parkway,	2,700	40	12,000	.020	-	-	-	Calcium chloride,	-	.016	.036	Surface treatment, Entire Length.	
Furnace Brook Parkway,	7,750	36 and 40	31,010	.001	-	-	-	Calcium chloride,	-	.008	.009	Surface treatment, Adams Street to Blue Hills Reservation.	
Lynn Fells Parkway,	2,600	40	11,500	.006	-	-	-	Calcium chloride,	-	.030	.036	Surface treatment, Middlesex Fells Reservation to Tremont Street, Melrose, 5 treatments.	
Lynn Shore Reservation,	5,900	40	24,256	.004	-	.016	-	Asphalt-oil (Texas Company and Indian Refining Company).	.61	.040	.060	Surface treatment, Washington Street to Humphrey Street.	
Middlesex Fells Reservation.	2,200	19	4,644	.006	.021	-	-	Liquid asphalt (Indian Refining Company).	.21	.017	.044	Surface treatment, Forest Street, Pleasure Drive to Half Mile Road.	
Middlesex Fells Reservation.	-	-	5,777	.008	-	-	-	Calcium chloride,	-	.029	.037	Surface treatment, Emerson Street.	
Middlesex Fells Reservation.	-	-	1,777	.008	-	-	-	Calcium chloride,	-	.011	.019	Surface treatment, 3 treatments.	

Middlesex Fells Reservation.	-	-	6,000	.009	-	-	-	Calcium chloride,	-	-	.039	.048	289 35	Surface treatment, 6 treatments.	Woodland Road.
Middlesex Fells Reservation.	-	-	3,400	.007	-	-	-	Calcium chloride,	-	-	.011	.018	61 02	Surface treatment, 3 treatments.	Pond Street.
Middlesex Fells Parkway,	1,450	36	5,800	.037	-	.016	-	Tarvia,	-	.64	.055	.108	629 02	Surface treatment,	Savin Street to Highland Avenue.
Middlesex Fells Parkway,	3,200	36	12,800	.004	-	-	.016	Liquid asphalt,	-	.327	.027	.047	603 80	Surface treatment,	Fellsway West Northerly Roadway.
Middlesex Fells Parkway,	4,650	25	12,917	.011	-	-	.025	Liquid asphalt,	-	.40	.032	.068	875 92	Surface treatment,	Fellsway West Southernly Roadway, Salem Street to Fulton Street.
Middlesex Fells Parkway,	1,360	32	4,836	.025	-	.020	-	Tarvia,	-	.22	.018	.063	305 03	Surface treatment,	Broadway to Mystic Avenue (West Roadway).
Middlesex Fells Parkway,	2,200	19	4,645	.012	-	.020	-	Liquid asphalt,	-	.49	.040	.072	335 16	Surface treatment,	Fellsway Extension Pleasure Drive.
Middlesex Fells Parkway,	1,400	19	2,955	.063	-	.225	-	Liquid asphalt,	-	.49	.040	.350	1,034 25	Resurfacing,	Fellsway Extension Pleasure Drive, Forest Street to Police Station.
Middlesex Fells Parkway,	1,000	26	2,889	.094	-	.082	.007	Tarvine,	-	2.14	.153	.336	971 05	Resurfacing,	Fellsway East, Emerald Street to Wicklow.
Middlesex Fells Parkway,	3,400	24	9,067	.066	-	.206	-	Asphalt oil (Standard Oil Company).	-	.34	.015	.287	2,603 76	Resurfacing,	Fellsway Easterly Roadway, Medford Street to Salem and Pleasant.
Mystic Valley Parkway,	1,600	36	5,700	.2301	.183	.162	.009	Liquid asphalt,	-	.34	.027	.682	3,890 34	Reconstruction,	Northerly from High Street, Medford.
Mystic Valley Parkway,	3,850	36	15,400	.179	.245	.179	.008	Liquid asphalt,	-	.31	.025	.636	9,787 96	Reconstruction,	(Portion), 1,600 feet north of High Street to Main Street, Winchester.
Mystic Valley Parkway,	2,750	36	11,000	.021	-	-	.008	Liquid asphalt,	-	.31	.025	.054	597 14	Surface treatment,	(Portion), Police sub-station to Main Street, Winchester.
Nantasket Beach Reservation.	3,760	40	24,935	.018	.002	-	-	Calcium chloride,	-	-	.021	.041	1,035 05	Surface treatment,	Entire length.
Neponset River Parkway,	2,750	26	7,944	.003	-	-	-	Asphaltolene,	-	.33	.023	.026	209 50	Surface treatment,	Brush Hill Road to Blue Hill Avenue.
Quincy Shore Reservation.	11,800	24 and 40	37,155	.002	-	-	-	Calcium chloride,	-	-	.014	.016	616 30	Surface treatment,	Hancock Street, Atlantic, to National Sailors' Home, Quincy.
Revere Beach Parkway,	4,560	36	18,240	.024	-	.026	-	Tarite-asphalt,	-	.60	.048	.098	1,786 54	Surface treatment,	Washington Avenue, Chelsea, to Olive Street.

¹ Included in labor.² Includes hauling away dead material and rolling subgrade, and laying 712 feet of 6-inch underdrain.

TABLE 3. — *Summary of Cost of Road Repairs and Maintenance, 1910 — Concluded.*

PARKWAY OR RESERVATION.	Length (Feet).	Width of Roadway (Feet).	Square Yards.	COST PER SQUARE YARD IN DETAIL.							Total Amount.	Remarks.	Location.	
				Labor (Cents).	Gravel (Cents).	Broken Stone (Cents).	Sand (Cents).	BITUMINOUS BINDER OR DUST LAYER.						Total Cost (Cents).
								Kind of Material.	Gallons per Square Yard.	Cost (Cents).				
Revere Beach Parkway, .	1,200	36	4,800	1.330	-	.411	-	Tarite-asphalt and Tar- via.	2.38	.190	.931	Reconstruction, .	Near Broadway, Revere.	
Revere Beach Reserva- tion.	6,100	40	25,078	.003	-	.006	-	Liquid asphalt, .	.16	.013	.022	Surface treatment, (patching).	Oak Island Street to North- ern Circle.	
Revere Beach Reserva- tion.	2,000	40	7,556	.013	-	.012	-	Tarite-asphalt, .	.43	.039	.064	Surface treatment,	Shirley Avenue to Chester Avenue.	
Stony Brook Reserva- tion.	13,075	16	23,247	.012	-	-	-	Asphaltolene, .	.27	.021	.033	Surface treatment,	Reservation Road, Wash- ington Street to Gordon Avenue and West Glen- wood Avenue.	
Winthrop Shore Reserva- tion.	5,700	36	20,900	.040	-	.009	-	Tarvia, .	.60	.045	.094	Surface treatment,	Entire length.	
Winthrop Shore Reserva- tion.	400	26	1,022	.180	-	.150	-	Tarvia, .	.78	.060	.400	Reconstruction, .	Beach Road.	

1 Includes excavation and gravel filling for subgrade.

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TABLE 4. — Prices paid for Principal Items of Construction, 1910.

	PARKWAYS.				RESERVATIONS.				
	Mystic Valley Parkway.		Alewife Brook Purification.		Middlesex Fells.		Winthrop Shore.		
	124	133	126	130	135	Mystic River.	127	129	128 132 135
CONTRACT No.						124			
<i>Drains.</i>									
20-inch vitrified pipe (lineal feet),	\$1 10	-	-	-	-	\$1 10	-	-	-
18-inch vitrified pipe (lineal feet),	90	-	-	-	-	90	-	-	-
15-inch vitrified pipe (lineal feet),	70	-	-	-	-	70	-	-	-
12-inch vitrified pipe (lineal feet),	50	-	-	-	-	50	-	-	-
10-inch vitrified pipe (lineal feet),	40	-	-	-	-	40	-	-	\$0 40
6-inch vitrified pipe (underdrain) (lineal feet),	30	-	-	-	-	30	-	-	-
<i>Edgestones.</i>									
Furnishing and setting, straight (lineal feet),	1 00	-	-	-	-	1 00	-	-	1 10
Furnishing and setting, curved (lineal feet),	1 25	-	-	-	-	1 25	-	-	1 25
Resetting old edgestone (lineal feet),	-	-	-	-	-	-	\$0 25	-	40
<i>Fence.</i>									
Iron pipe rail (lineal feet),	-	-	-	-	-	-	-	\$0 98	-
<i>Grading.</i>									
Earth excavation (cubic yards),	35	{ \$0 53 54 58 }	\$0 90	{ \$0 59 77 87 }	-	35	-	-	\$0 50 52
Dredging for new channel (cubic yards),	-	-	-	-	-	-	-	-	-
Rock excavation (cubic yards),	-	-	-	-	-	1 75	-	-	-

TABLE 4. — Prices paid for Principal Items of Construction — Concluded.

CONTRACT No.	PARKWAYS.				RESERVATIONS.								
	Mystic Valley Parkway.		Alewife Brook Purification.		Middlesex Fells.	Mystic River.		Winthrop Shore.		Revere Beach Reservation.			Charles River.
	124	133	126	130	135	124	127	129	128	132	135	134	
<i>Masonry.</i>													
Stone masonry relaid (cubic yards),	-	-	-	-	-	-	\$2 75	-	-	-	-	-	
Stone coping reset (lineal feet),	-	-	-	-	-	-	1 00	-	-	-	-	-	
Concrete 1 : 3 : 6 (cubic yards),	\$8 00	-	\$6 35	-	-	\$8 00	-	-	\$6 50	-	-	-	
Brick catch basins (each), ¹	28 00	-	-	-	-	28 00	-	-	-	-	-	\$30 00	
Concrete coping (lineal feet),	-	-	-	-	-	-	-	-	2 00	-	-	-	
<i>Surfacing.</i>													
Broken stone and gravel roadway (square yards),	48	-	-	-	-	48	-	-	-	-	-	50	
Loam (cubic yards),	30	-	-	-	-	30	-	-	-	-	-	40	
Loam furnished (cubic yards),	90	-	-	-	-	90	-	-	-	-	-	1 00	
Walks, cinders and stone dust (square yards),	30	-	-	-	-	30	-	-	-	-	-	30	
Granolithic walks (square yards),	1 40	-	-	-	\$1 49 ²	-	1 00 ³	-	-	\$0 98 ¹ / ₂	\$0 98 ¹ / ₂	1 60 ²	
Brick gutters relaid (square yards),	-	-	-	-	-	-	60	-	-	-	-	-	
<i>Lumber.</i>													
Spruce lumber in place (1,000 feet B. M.),	30 00	-	-	-	-	30 00	-	-	-	-	-	-	

¹ Covers and frames furnished by Commission.² Includes 12 inches of subgrade prepared by contractor.³ Laid on prepared subgrade with sand and gravel for concrete taken from beach.

FINANCIAL STATEMENT.

DEC. 1, 1909, TO DEC. 1, 1910.

Metropolitan Parks Loan Fund,	\$8,835,000 00
Receipts added to loan before June 1, 1901,	198,334 01

\$9,033,334 01

Expenditures.

Blue Hills Reservation:—

Land,	\$163 90	
Engineering:—		
Pay rolls,	\$30 70	
Expenses,	1 10	
	<u>31 80</u>	
		\$195 70

Middlesex Fells Reservation:—

Engineering:—		
Pay rolls,	\$25 98	
Expenses,	3 10	
	<u>\$29 08</u>	
		29 08

Revere Beach Reservation:—

Engineering, pay rolls,	\$39 20	
	<u>39 20</u>	

Charles River Reservation:—

Construction:—		
Contract, Martin & Condon,	\$2,868 55	
Labor and materials,	207 26	
	<u>\$3,075 81</u>	
Engineering:—		
Pay rolls,	\$84 60	
Expenses,	7 94	
	<u>92 54</u>	
Land experts,	4 26	
	<u>3,172 61</u>	

Neponset River Reservation:—

Engineering:—		
Pay rolls,	\$5 70	
Expenses,	30	
	<u>\$6 00</u>	
		6 00

Mystic River Reservation:—

Construction:—		
Contract, James H. Fannon,	\$17,559 29	
Labor and materials,	2,954 86	
	<u>\$20,514 15</u>	
Engineering:—		
Pay rolls,	\$1,036 45	
Expenses,	578 71	
	<u>1,615 16</u>	
Fencing,	336 09	
	<u>22,465 40</u>	

Amounts carried forward, \$25,907 99 \$9,033,334 01

Amounts brought forward,	\$25,907 99	\$9,033,334 01
Lynn Shore Reservation:—		
Engineering, pay rolls,	\$12 20	
		12 20
Quincy Shore Reservation:—		
Engineering:—		
Pay rolls,	\$25 50	
Expenses,	20	
	\$25 70	
		25 70
Winthrop Shore Reservation:—		
Construction, labor and materials,	\$245 75	
Engineering, pay rolls,	6 70	
		252 45
Alewife Brook Purification:—		
Land,	\$10 00	
Construction:—		
Contracts:—		
Bruno & Petitti,	\$23,395 82	
Eastern Dredging Co.,	26,342 07	
Auguste Saucier,	11,416 61	
	\$61,154 50	
Lowering Metropolitan Sewer,	2,634 27	
Labor and materials,	9,511 48	
	73,300 25	
Engineering:—		
Payrolls,	\$3,626 84	
Expenses,	309 74	
	3,936 58	
Investigation of pollution,	100 00	
Advertising contracts,	92 33	
	77,439 16	
General expense:—		
Engineering:—		
Pay rolls,	\$335 41	
Expenses,	94 21	
	\$429 62	
Legal,	150 00	
Claims,	150 00	
	729 62	
	\$104,367 12	
Amounts charged to Dec. 1, 1909,	8,878,245 73	
		8,982,612 85
Balance,		\$50,721 16

METROPOLITAN PARKS LOAN FUND, SERIES II.

Metropolitan Parks Loan Fund, Series II,	\$5,135,000 00
Receipts added to loan before June 1, 1901,	29,907 41
	\$5,164,907 41

Expenditures.

Blue Hills Parkway:—		
Engineering, expenses,	\$0 10	
		\$0 10
Amounts carried forward,	\$0 10	\$5,164,907 41

<i>Amounts brought forward,</i>			\$0 10 \$5,164,907 41
Middlesex Fells Parkway:—			
Land,		\$2,430 83	
Engineering:—			
Pay rolls,	\$26 80		
Expenses,	1 40		
		28 20	
Legal,		2 22	
			2,461 25
Mystic Valley Parkway:—			
Construction:—			
Contract, James H. Fannon,	\$7,573 85		
Dredging,	1,660 80		
Labor and materials,	29 91		
		\$9,264 56	
Engineering:—			
Pay rolls,	\$405 45		
Expenses,	12 98		
		418 43	
			9,682 99
Revere Beach Parkway:—			
Engineering:—			
Pay rolls,	\$14 70		
Expenses,	15		
		\$14 85	
			14 85
Furnace Brook Parkway:—			
Engineering, pay rolls,		\$21 40	
			21 40
Lynn Fells Parkway:—			
Land,		\$2,300 00	
Construction, labor and materials,		1,041 19	
Engineering:—			
Pay rolls,	\$142 05		
Expenses,	20		
		142 25	
Copies of contracts,		43 66	
Miscellaneous,		1 00	
			3,528 10
Winthrop Parkway:—			
Land,		\$5,300 00	
Construction, labor and materials,		8,806 30	
Engineering:—			
Pay rolls,	\$383 05		
Expenses,	32 58		
		415 63	
Landscape Architects:—			
Services,	\$28 86		
Expenses,	24		
		29 10	
Land experts,		57 50	
			14,608 53
Alewife Brook Parkway:—			
Land,		\$31,767 05	
Engineering:—			
Pay rolls,	\$74 80		
Expenses,	50		
		75 30	
Land experts,		150 00	
			31,992 35
<i>Amounts carried forward,</i>			\$62,309 57 \$5,164,907 41

<i>Amounts brought forward,</i>			\$62,309 57	\$5,164,907 41
General expense:—				
Engineering:—				
Pay rolls,		\$333 25		
Expenses,		131 16		
			\$464 41	
Legal,			150 00	
Claims,			150 00	
				764 41
				\$63,073 98
Amounts charged to Dec. 1, 1909,			5,030,517 72	
				5,093,591 70
Balance,				\$71,315 71

CHARLES RIVER BASIN LOAN.

Total amount of bonds,		\$4,125,000 00
Receipts added to loan,		9,340 75
		\$4,134,340 75
Expenditures of Charles River Basin Commission to July 1, 1910,		3,992,552 71
Balance, July 1, 1910,		\$141,788 04

Expenditures, July 1, 1910, to Dec. 1, 1910.

Administration:—		
Commissioners,	\$230 78	
Secretary,	86 54	
Clerks and stenographers,	1,716 50	
Stationery and printing,	630 90	
Postage, express and telegrams,	8 07	
Telephone and lighting,	75 73	
Rent,	75 68	
Miscellaneous expenses,	49 90	
		\$2,874 10
Engineering:—		
Chief, principal assistant and division engineers,	\$2,097 67	
Engineering assistants,	4,633 00	
Consulting engineers,	601 01	
Inspectors,	1,447 74	
Architects,	437 40	
Traveling,	28 61	
Wagon hire,	51 00	
Stationery and printing,	19 63	
Postage, express and telegrams,	1 00	
Instruments, tools and boats,	4 30	
Engineering and drafting supplies,	6 04	
Books, maps and photographs,	139 24	
Furniture and fixtures,	10 60	
Alterations and repairs of buildings, sub-offices,	15 51	
Telephone and lighting, main office,	136 36	
Telephone, lighting, heating, water and care of building, sub-offices,	149 93	
Rent, main office,	316 00	
Unclassified supplies,	21 78	
Miscellaneous expenses,	30 64	
		10,147 46
<i>Amounts carried forward,</i>	\$13,021 56	\$141,788 04

Amounts brought forward, \$13,021 56 \$141,788 04

Construction — Contracts: —

Contract No. 130, William H. Ellis,	\$1,504 67
Contract No. 134, Bay State Dredging Co.,	7,855 07
Contract No. 135, Frederic C. Alexander,	2,440 54
Contract No. 137, Henry R. Worthington,	135 00
Contract No. 141, The Norcross Brothers Co.,	3,748 83
Contract No. 145, Vulcan Rail and Construction Co.,	1,686 66
Contract No. 147, Walworth Construction and Supply Co.,	273 32
Contract No. 150, Vulcan Rail and Construction Co.,	840 00
Contract No. 151, Vulcan Rail and Construction Co.,	781 79
Contract No. 152, Vulcan Rail and Construction Co.,	4,504 10
Contract No. 153, A. B. Robbins Iron Co.,	2,061 49
Contract No. 155, Coleman Brothers,	20,517 05
Contract No. 156, Vulcan Rail and Construction Co.,	1,443 42
Contract No. 159, Nilson Brothers,	410 00
Contract No. 160, Hill, Clarke & Co., Inc.,	995 00
Contract No. 161, Chandler & Farquhar Co.,	512 00
Contract No. 162, Martin A. Feeley,	570 10
Contract No. 164, William H. Ellis,	945 11
Contract No. 165, James Driscoll & Son,	700 00
Two open launches, George Lawley & Son Corporation,	4,395 00
One 36-foot cabin launch, George Lawley & Son Corporation,	3,525 00

59,844 15

Construction — Additional: —

Labor,	\$5,812 53
Water rates,	118 27
Freight and express,	32 93
Jobbing and repairing,	377 45
Tools, machinery, appliances and hardware supplies,	4,047 70
Castings, ironwork and metals,	1,601 54
Pipe and valves,	382 48
Paint and coating,	18 84
Fuel, oil and waste,	79 12
Lumber and field buildings,	670 88
Drain pipe,	85 75
Brick, cement and stone,	304 50
Sand, gravel and filling,	142 97
Municipal and corporation work,	2,045 94
Furniture,	630 49
Automobile,	1,600 00
Horses,	1,275 00
Harnesses,	215 00
Wagons,	439 00
Boats,	234 50
Flag staff,	300 00
Seats for open shelter,	144 00
Unclassified supplies,	982 87
Telephone, lighting and power,	336 49
Miscellaneous expenses,	153 61

22,031 86

Amounts carried forward, \$94,897 57 \$141,788 04

Amounts brought forward,	\$94,897 57	\$141,788 04
Maintenance: —		
General expense: —		
Salaries, engineering department,	\$82 74	
Traveling,	1 55	
Engineering supplies,	1 20	
Miscellaneous,	357 46	
Labor, teaming and keep of horses: —		
Labor,	16,409 20	
Teaming,	97 00	
Keep of horses,	266 37	
Horses, carriages, etc.,	322 36	
Police: —		
Pay rolls,	12,157 89	
Miscellaneous,	1,151 26	
Watering,	558 54	
Lighting,	986 03	
Power,	164 53	
Supplies and miscellaneous: —		
Traveling,	18 40	
General supplies,	1,151 41	
Stationery and printing,	164 42	
Telephones,	324 92	
Repairs,	881 57	
Miscellaneous,	499 28	
	<hr/>	
	35,596 13	
	<hr/>	
		130,493 70
Balance in hands of State Treasurer,		\$11,294 34

METROPOLITAN PARKS SYSTEM MAINTENANCE.

Appropriation Dec. 1, 1909, to Dec. 1, 1910, \$338,142 96

Expenditures.

General expense: —		
Police: —		
Pay rolls,	\$77,548 50	
Equipment,	5,243 34	
	<hr/>	
	\$82,791 84	
Salaries: —		
Commissioners,	\$3,450 00	
General office,	6,356 16	
Law department,	2,140 00	
Engineering department,	6,229 17	
	<hr/>	
	18,175 33	
Mateer pension,	300 00	
Engineering supplies,	858 76	
Rent, lighting and care of offices,	2,964 59	
Telephones,	907 13	
Stationery and printing,	602 38	
Annual report, one-half,	529 67	
Extra clerical assistance,	515 73	
Traveling,	436 86	
Postage, etc.,	368 85	
Maps and books,	205 63	
Safe,	141 75	
Filing cabinets, cards, etc.,	117 37	
Automobile and motorcycle fees,	93 00	
Typewriter supplies,	68 00	
	<hr/>	
Amounts carried forward,	\$109,076 89	\$338,142 96

<i>Amounts brought forward,</i>		\$109,076 89	\$338,142 96
Expense, 1915 Exhibit,		66 04	
Recording papers,		54 94	
Office repairs,		50 80	
Photographs and slides,		37 75	
Spring water,		25 40	
Moving furniture,		25 00	
Copies of old reports,		17 00	
New coverings for awnings,		17 00	
Storing awnings,		16 10	
Towel supply,		15 24	
Rubber stamps,		12 90	
Wardrobe,		12 00	
Typewriter repairs,		11 22	
Cleaning carpet,		8 00	
Rug,		6 75	
Door check,		5 00	
Leather bag,		5 00	
Report of hearing,		5 00	
Office supplies,		4 80	
Picture frames,		4 75	
Express,		3 40	
Lettering case,		1 50	
Soap,		1 44	
		<hr/>	\$109,483 92
Blue Hills Reservation:—			
Labor,	\$21,189 34		
Teaming,	1,769 40		
Keep of horses,	4,604 05		
	<hr/>	\$27,562 79	
Labor and supplies, gypsy and brown-tail moth work,	23,254 64		
General supplies,	3,075 03		
Telephones,	349 24		
Sanitary, plastering,	347 00		
Sanitary, fittings,	176 01		
Shrubs,	287 23		
Express,	160 66		
Lighting offices,	156 86		
Water rates,	148 30		
Stationery and printing,	86 30		
Bubble fountain,	78 07		
Laundry,	69 00		
Siphon,	50 00		
Cedar chests,	40 00		
Crushed stone,	29 05		
Repairs,	25 25		
Canvas suits,	21 60		
Physicians' services,	20 00		
Traveling,	3 91		
	<hr/>	55,940 94	
Middlesex Fells Reservation:—			
Labor,	\$17,721 64		
Teaming,	1,467 00		
Keep of horses,	4,304 93		
	<hr/>	\$23,493 57	
Labor and supplies, gypsy and brown-tail moth work,	47,186 18		
Street watering or its equivalent,	3,499 98		
General supplies,	2,202 07		
Street lighting,	1,579 44		
	<hr/>		
<i>Amounts carried forward,</i>	\$77,961 24	\$165,424 86	\$338,142 96

<i>Amounts brought forward,</i>	\$77,961 24	\$165,424 86	\$338,142 96
Architects,	400 00		
Lighting offices,	378 15		
Telephones,	342 82		
Express,	139 76		
Shrubs,	127 88		
Stationery and printing,	106 65		
Traveling,	76 70		
Water rates,	41 20		
Waste barrels,	31 65		
Water meters,	16 80		
Canvas suits,	14 40		
Sand,	12 50		
Physicians' services,	6 00		
Repairs,	50		
Laundry,	30		
		79,656 55	
Revere Beach Reservation: —			
Labor,	\$11,953 65		
Keep of horses,	2,210 06		
		\$14,163 71	
Street lighting,	4,797 00		
Street watering or its equivalent,	2,569 88		
General supplies,	1,432 87		
Telephones,	490 12		
Freight and express,	257 39		
Water rates,	190 95		
Traveling,	179 91		
Stationery and printing,	149 15		
Lighting offices,	76 07		
Drinking fountains,	41 40		
Canvas suits,	33 60		
Repairs,	29 80		
Chairs,	27 00		
Laundry,	15 36		
Boiler inspection,	15 00		
Advertising,	1 35		
Subscription to "Detective",	1 00		
		24,471 56	
Stony Brook Reservation: —			
Labor,	\$3,803 25		
Teaming,	638 25		
Keep of horses,	1,047 63		
		\$5,489 13	
Labor and supplies, gypsy and brown-tail moth work,	3,683 00		
Street watering or its equivalent,	864 13		
General supplies,	177 12		
Telephones,	77 86		
Stationery and printing,	17 87		
Water rates,	7 00		
Repairs,	1 75		
		10,317 86	
Beaver Brook Reservation: —			
Labor,	\$1,995 57		
Keep of horses,	217 60		
		\$2,213 17	
Labor and supplies, gypsy and brown-tail moth work,	238 00		
General supplies,	204 22		
Repairs,	113 16		
<i>Amounts carried forward,</i>	\$2,768 55	\$279,870 83	\$338,142 96

<i>Amounts brought forward,</i>	\$2,768 55	\$279,870 83	\$338,142 96
Telephones,	57 13		
Water rates,	51 49		
Stone dust,	17 20		
Moving buildings,	10 00		
Traveling,	7 30		
Stationery and printing,	6 73		
Waste barrels,	5 80		
Shrubs,	5 71		
Express,	80		
		2,930 71	

Charles River Reservation:—

Riverside Section:—

Labor,	\$5,010 13		
Teaming,	1,038 52		
Keep of horses,	537 37		
		\$6,586 02	
Labor and supplies, gypsy and brown-tail moth work,	4,048 40		
General supplies,	1,140 08		
Lighting offices,	206 27		
Telephones,	100 40		
Traveling,	74 20		
Water rates,	48 05		
Stationery and printing,	40 44		
Cleaning cesspool,	24 00		
Express,	23 30		
Repairs,	18 39		
Physicians' services,	13 00		
Photograph,	5 00		
		12,327 55	

Speedway Section:—

Labor,	\$9,242 73		
Teaming,	1,325 00		
Keep of horses,	1,982 98		
		\$12,550 71	
Street watering or its equivalent,	3,007 66		
Labor and supplies, gypsy and brown-tail moth work,	2,564 40		
Street lighting,	2,299 12		
General supplies,	1,911 03		
Loam,	525 00		
Telephones,	134 24		
Trees,	116 80		
Lighting offices,	97 47		
Stationery and printing,	84 74		
Water rates,	82 30		
Traveling,	74 15		
Laundry,	49 60		
Repairs,	45 65		
Express,	42 05		
Waste barrels,	16 15		
Canvas suits,	14 40		
Physicians' services,	14 00		
Hand bag,	6 50		
		23,635 97	

Neponset River Reservation:—

Labor,	\$114 71		
Keep of horses,	120 00		
		\$234 71	
<i>Amounts carried forward,</i>	\$234 71	\$318,765 06	\$338,142 96

<i>Amounts brought forward,</i>		\$234 71	\$318,765 06	\$338,142 96
Labor and supplies, gypsy and brown-tail moth work,		665 25		
Telephones,		32 87		
Water rates,		7 00		
			939 53	
Lynn Shore Reservation: —				
Labor,	\$3,550 74			
Teaming,	173 75			
Keep of horses,	1 50			
		\$3,725 99		
Street lighting,		2,463 96		
Street watering or its equivalent,		1,259 88		
General supplies,		332 55		
Loam,		250 00		
Water rates,		9 00		
Express,		25		
			8,041 63	
Quincy Shore Reservation: —				
Labor,	\$2,520 25			
Teaming,	789 38			
Keep of horses,	100 00			
		\$3,409 63		
Street lighting,		1,596 00		
Street watering or its equivalent,		616 30		
General supplies,		258 96		
Concrete mixer,		175 00		
Architects,		113 00		
Telephones,		95 23		
Repairs,		4 65		
Express,		2 75		
			6,271 52	
Winthrop Shore Reservation: —				
Labor,	\$1,883 17			
Teaming,	82 50			
		\$1,965 67		
Street watering or its equivalent,		998 05		
Street lighting,		615 96		
General supplies,		390 72		
Park benches,		63 00		
Water rates,		9 00		
			4,042 40	
				338,060 14
Balance,				\$82 82

BAND CONCERTS.

Appropriation, \$25,000 00

Expenditures.

Blue Hills Reservation: —				
Band,	\$1,266 50			
		\$1,266 50		
Middlesex Fells Division: —				
Band,	\$2,521 70			
Extra police,	60 50			
Setting up and storing band stand and chairs,	40 00			
Chairs,	18 00			
Lighting band stand,	16 20			
		2,656 40		
<i>Amounts carried forward,</i>		\$3,922 90	\$25,000 00	

<i>Amounts brought forward,</i>	\$3,922 90	\$25,000 00
Revere Beach Reservation:—		
Band,	\$6,806 70	
Lighting band stand,	68 00	
Painting sign,	1 50	
	<hr/>	6,876 20
Beaver Brook Reservation:—		
Band,	\$988 00	
	<hr/>	988 00
Charles River Reservation, Riverside Division:—		
Band,	\$1,607 83	
Ice,	1 00	
	<hr/>	1,608 83
Charles River Reservation, Speedway Division:—		
Band,	\$2,202 40	
Extra police,	269 00	
Lettering signs,	6 50	
Lamp supplies,	4 36	
Glass lights,	96	
	<hr/>	2,483 22
Nahant Beach Parkway:—		
Band,	\$1,764 00	
Extra police,	48 00	
	<hr/>	1,812 00
Nantasket Beach Reservation:—		
Band,	\$6,808 90	
Express on music,	10 00	
	<hr/>	6,818 90
General expense:—		
Repairing stamp,	\$0 10	
	<hr/>	0 10
		<hr/>
		24,510 15
Balance,		<hr/>
		\$489 85

SPECIAL APPROPRIATIONS.

Appropriation for storm repairs.	\$59,000 00
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Expenditures.

Revere Beach Reservation:—		
Construction:—		
Contracts:—		
W. H. Ellis,	\$15,233 42	
Simpson Brothers,	3,259 31	
Warren Brothers,	1,240 99	
	<hr/>	\$19,733 72
Labor,	4,295 13	
	<hr/>	\$24,028 85
Engineering:—		
Pay rolls,	\$1,149 43	
Expenses,	83 80	
	<hr/>	1,233 23
Loam, etc., for grading,	1,623 65	
Lumber,	1,298 01	
Pile driving,	1,227 60	
Iron fence,	460 71	
Cement,	258 40	
Hardware,	224 06	
Stone dust,	196 65	
	<hr/>	
<i>Amounts carried forward,</i>	\$30,551 16	\$59,000 00

Amounts brought forward,		\$30,551 16	\$59,000 00
Advertising,		105 38	
Copies of contract,		38 44	
Miscellaneous,		4 25	
		<hr/>	\$30,699 23
Lynn Shore Reservation: —			
Labor,		\$428 75	
Cement,		272 00	
		<hr/>	700 75
Quincy Shore Reservation: —			
Labor,		\$4,651 13	
Engineering: —			
Pay rolls,	\$654 08		
Expenses,	64 59		
	<hr/>	718 67	
Cement,		752 46	
Water pipe,		459 28	
Iron valves,		330 00	
Lumber,		323 40	
Crushed stone,		282 70	
Oil,		78 91	
Hardware,		69 31	
Hose,		36 60	
Moving field office,		25 10	
Wheel barrows,		7 20	
Rubber boots,		4 16	
Miscellaneous,		2 04	
		<hr/>	7,740 96
Winthrop Shore Reservation: —			
Construction: —			
Contracts: —			
Coleman Brothers,	\$4,496 40		
Vulcan Rail and Construction Co.,	2,218 16		
	<hr/>	\$6,714 56	
Labor,		731 09	
		<hr/>	\$7,445 65
Engineering: —			
Pay rolls,	\$274 40		
Expenses,	34 48		
	<hr/>	308 88	
Stone steps,		745 90	
Paint,		335 33	
Clay,		15 00	
Hardware,		12 78	
		<hr/>	8,863 54
Nantasket Beach Reservation: —			
Repairs to hotel cellar and bulkhead,		\$2,292 83	
Engineering, expenses,		27 00	
		<hr/>	2,319 83
Nahant Beach Parkway: —			
Labor,		\$577 25	
		<hr/>	577 25
Winthrop Parkway: —			
Labor,		\$27 00	
		<hr/>	27 00
		<hr/>	50,928 56
Balance,			\$8,071 44

Appropriation for sanitarries, \$16,000 00

Expenditures.

Revere Beach Reservation:—

Construction:—

Contracts:—

Harry E. Hardy, \$8,932 49

I. L. Matson, 475 00

\$9,407 49

Architects, 669 93

Plumbing, 496 75

Terrazzo floors, 152 00

Turpentine, oil, etc., 88 47

Sky lights, 5 80

\$10,820 44

Quincy Shore Reservation:—

Contract, E. H. Sears, \$3,740 00

Architects, 250 00

Furnace, 168 00

4,158 00

14,978 44

Balance, \$1,021 56

Appropriation for Bear Hill Tower, \$6,000 00

Expenditures.

Contract, Concrete Engineering Co., \$4,300 00

Architects, 300 00

4,600 00

Balance, \$1,400 00

Appropriation for completion of Charles River Road in Watertown, \$10,000 00

Expenditures.

Construction:—

Contract, James H. Fannon, \$6,652 30

Labor and materials, \$96 69

\$6,748 99

Engineering:—

Pay rolls, \$486 70

Expenses, 51 91

538 61

Advertising contracts, 138 83

Copies of contract, 42 87

7,469 30

Balance, \$2,530 70

Appropriation for additional dredging in Mystic River, \$15,000 00

Expenditures.

Engineering:—

Pay rolls, \$313 55

Expenses, 8 70

\$322 25

Advertising contracts, 102 38

Labor, 55 00

479 63

Balance, \$14,520 37

Appropriation for resurfacing Blue Hills Parkway, \$5,000 00

Expenditures.

Tar preparations,	\$1,922 19	
Crushed stone,	1,533 70	
Labor,	1,201 50	
A. T. C. distributor,	200 00	
Coal for steam roller,	38 73	
Iron Chain,	7 32	
		<hr/>
		4,903 44
		<hr/>
Balance,		\$96 56

Appropriation for resurfacing Mystic Valley Parkway, \$10,000 00

Expenditures.

Labor,	\$5,841 29	
Crushed stone,	2,302 33	
Use of steam roller,	1,210 50	
Scarifier,	527 50	
Sewer pipe,	102 40	
Coal,	13 50	
Oil,	2 48	
		<hr/>
		10,000 00
		<hr/>
Balance,		-

Appropriation for sidewalks, Middlesex Fells Parkway, \$5,000 00

Expenditures.

Construction: —		
Contract, Warren Brothers Co.,	\$2,039 38	
Labor,	64 00	
		<hr/>
		\$2,103 38
Engineering: —		
Pay rolls,	\$218 85	
Expenses,	8 30	
		<hr/>
		227 15
		<hr/>
		2,330 53
		<hr/>
Balance,		\$2,669 47
		<hr/>

METROPOLITAN PARKS BOULEVARD MAINTENANCE.

Appropriation Dec. 1, 1909, to Dec. 1, 1910, \$174,507 00

Expenditures.

General expense: —		
Police: —		
Pay rolls,	\$28,476 67	
Equipment,	6,865 83	
		<hr/>
		\$35,342 50
Salaries: —		
Commissioners,	\$3,450 00	
General office,	6,320 54	
Law department,	2,140 00	
Engineering department,	6,663 90	
		<hr/>
		18,574 44
		<hr/>
Amounts carried forward,	\$53,916 94	\$174,507 00
		<hr/>

<i>Amounts brought forward,</i>	\$53,916 94	\$174,507 00
Engineering supplies,	1,144 85	
Rent, lighting and care of offices,	2,972 88	
Extra clerical assistance,	1,239 55	
Telephones,	758 70	
Stationery and printing,	725 83	
Annual report, one-half,	529 66	
Postage, etc.,	354 39	
Traveling,	337 36	
Filing cabinets, cards, etc.,	253 38	
Maps and books,	176 99	
Automobile and motorcycle fees,	111 50	
Premiums on bonds,	60 00	
Recording papers,	43 90	
Office repairs,	43 73	
Towel supply,	24 51	
Spring water,	24 40	
Office supplies,	17 15	
Typewriter repairs,	15 83	
Shellacking floors,	15 00	
Typewriter supplies,	11 05	
Lettering books,	10 45	
Copies of old reports,	10 10	
Leather case for plate holders,	8 50	
Soap,	7 98	
Express,	6 60	
Photographs and slides,	4 00	
Reupholstering chairs,	3 75	
Picture frame,	3 35	
Rubber stamps,	2 70	
Packing case,	1 10	
		\$62,836 13
Blue Hills Parkway:—		
Labor,	\$2,232 00	
Teaming,	425 50	
Keep of horses,	230 00	
		\$2,887 50
Street lighting,	2,550 00	
Street watering or its equivalent,	1,321 49	
Labor and supplies, gypsy and brown-tail moth work,	305 00	
General supplies,	229 37	
Tar kettle,	207 00	
Crushed stone,	201 83	
Water rates,	18 49	
Lighting offices,	14 51	
Stationery and printing,	5 96	
		7,741 15
Middlesex Fells Parkway:—		
Labor,	\$8,584 02	
Teaming,	3,763 16	
Keep of horses,	132 72	
		\$12,479 90
Street lighting,	6,570 00	
Street watering or its equivalent,	5,999 92	
Crushed stone and gravel,	2,135 10	
Labor and supplies, gypsy and brown-tail moth work,	999 99	
General supplies,	537 05	
Furnace,	174 00	
Telephones,	85 24	
<i>Amounts carried forward,</i>	\$28,981 20	\$70,577 28 \$174,507 00

<i>Amounts brought forward,</i>		\$28,981 20	\$70,577 28	\$174,507 00
Waste barrels,		15 30		
Lighting offices,		12 60		
Water rates,		7 00		
Stationery and printing,		6 05		
			\$29,022 15	
Mystic Valley Parkway:—				
Labor,	\$8,752 02			
Teaming,	2,188 26			
Keep of horses,	394 62			
		\$11,334 90		
Street watering or its equivalent,		4,999 97		
Street lighting,		3,704 84		
Labor and supplies, gypsy and brown-tail moth work,		1,499 99		
General supplies,		779 43		
Loam,		641 90		
City of Medford, constructing entrance, Main Street,		397 07		
Granolithic sidewalk, Washington Street,		274 53		
Power for sluice gates,		250 00		
Telephones,		189 30		
City of Medford, constructing crossing, Winthrop Street,		116 33		
Water rates,		94 90		
Range,		42 50		
Waste barrels,		15 30		
Miscellaneous,		12 35		
			24,353 31	
Revere Beach Parkway:—				
Labor,	\$9,252 76			
Teaming,	167 00			
Keep of horses,	260 05			
		\$9,679 81		
Street watering or its equivalent,		6,365 82		
Street lighting,		5,040 00		
Installation of motor,		2,705 50		
General supplies,		1,118 28		
Labor and supplies, gypsy and brown-tail moth work,		422 55		
Crushed stone,		195 53		
Edgestone,		140 00		
Typewriter,		36 75		
Shrubs,		35 90		
Trees,		31 00		
Water rates,		26 00		
Stationery and printing,		16 00		
Repairs,		4 60		
Express,		40		
			25,818 14	
Neponset River Parkway:—				
Labor,	\$564 00			
Keep of horses,	100 00			
		\$664 00		
Street watering or its equivalent,		209 50		
			873 50	
Nahant Beach Parkway:—				
Labor,	\$2,533 98			
Keep of horses,	346 28			
		\$2,880 26		
<i>Amounts carried forward,</i>		\$2,880 26	\$150,644 38	\$174,507 00

<i>Amounts brought forward,</i>	\$2,880 26	\$150,644 38	\$174,507 00
Street lighting,	636 57		
Loam,	544 00		
Street watering or its equivalent,	239 37		
General supplies,	211 96		
Dressing,	163 20		
Traveling,	21 35		
Stationery and printing,	6 76		
Miscellaneous,	5 29		
		4,708 76	
Fresh Pond Parkway:—			
Labor,	\$1,106 63		
Street watering or its equivalent,	499 92		
Street lighting,	450 00		
Labor and supplies, gypsy and brown-tail moth work,	304 00		
General supplies,	230 45		
Dressing,	120 00		
		2,711 00	
Furnace Brook Parkway:—			
Labor,	\$1,249 00		
Teaming,	40 50		
Keep of horses,	200 00		
		\$1,489 50	
Street lighting,	1,225 56		
Street watering or its equivalent,	295 65		
Labor and supplies, gypsy and brown-tail moth work,	243 00		
General supplies,	68 80		
Lighting offices,	16 63		
Stationery and printing,	7 78		
		3,346 92	
Winthrop Parkway:—			
Street lighting,	\$120 02		
		120 02	
Lynnway:—			
Labor,	\$5,344 25		
Keep of horses,	27 66		
		\$5,371 91	
Installation of motors,	2,535 10		
Street lighting,	840 00		
Street watering or its equivalent,	163 61		
General supplies,	163 13		
Stationery and printing,	8 40		
		9,082 15	
Lynn Fells Parkway:—			
Labor,	\$1,088 85		
Teaming,	15 00		
Keep of horses,	101 15		
		\$1,205 00	
Street watering or its equivalent,	1,000 00		
Street lighting,	839 84		
Labor and supplies, gypsy and brown-tail moth work,	200 00		
Loam,	150 00		
General supplies,	36 44		
Stationery and printing,	13 48		
		3,444 76	
			174,057 99
Balance,			\$449 01

NANTASKET BEACH MAINTENANCE.

Appropriation Dec. 1, 1909, to Dec. 1, 1910, \$26,900 00

Expenditures.

Labor,	\$5,252 77	
Keep of horses,	268 25	
	<hr/>	\$5,521 02
Police:—		
Pay rolls,	\$12,053 09	
Equipment,	745 60	
	<hr/>	12,798 69
Painting,		1,600 00
Street lighting,		1,349 15
Street watering or its equipment,		1,084 06
General supplies,		954 03
Incinerator,		659 18
Installing autoplane system,		548 33
1-40 Station recorder and generators,		500 00
Rent, superintendent's house,		440 40
Water rates,		320 50
Repairs,		287 21
Use of steam roller,		144 00
Telephones,		139 18
Stationery and printing,		88 87
Moving and storing furniture,		77 00
Typewriter,		64 25
Express,		63 33
Physicians' services,		60 00
Gravel,		56 25
Planting,		42 90
Waste barrels,		40 59
Ash barrels,		12 30
Canvas suits,		10 80
Hand bag,		6 50
Mats,		5 25
Traveling,		3 50
Drain pipe rental,		1 00
Post-office box,		35
	<hr/>	26,878 64
Balance,		<hr/> <hr/> \$21 36

WELLINGTON BRIDGE MAINTENANCE.

Appropriation Dec. 1, 1909, to Dec. 1, 1910, \$7,012 00

Expenditures.

Labor,	\$3,317 96	
Teaming,	185 00	
Keep of horses,	9 00	
	<hr/>	\$3,511 96
Street lighting,		900 00
Loam,		640 10
Crushed stone,		563 48
Installation of motor,		500 00
General supplies,		284 21
Street watering or its equivalent,		250 00
Power for draw,		105 53
	<hr/>	<hr/>
Amounts carried forward,	\$6,755 28	\$7,012 00

<i>Amounts brought forward,</i>	\$6,755 28	\$7,012 00
Extinguishing fire,	100 00	
Telephones,	70 35	
Sand,	48 00	
Dressing,	20 00	
Water rates,	11 40	
Stationery and printing,	6 85	
		7,011 88
Balance,		\$0 12

METROPOLITAN PARKS EXPENSE FUND.

Balance Dec. 1, 1909,	\$85,083 93
Receipts, Dec. 1, 1909, to Dec. 1, 1910,	88,316 32
	\$173,400 25

Expenditures.

<i>Police:—</i>		
Motorcycle parts and repairs,	\$1,950 20	
Motorcycles,	1,775 74	
Horses,	700 00	
Police signal system,	443 30	
Emergency lectures for police,	225 90	
Rent, armory and shooting gallery,	148 00	
Service of drill master,	48 00	
Police boxes,	196 50	
Life boat,	165 85	
Furnishings for police station,	140 85	
Naphtha,	82 55	
Miscellaneous,	10 15	
		\$5,887 04
<i>Engineering:—</i>		
Telephones,	\$22 88	
		22 88
<i>Blue Hills Reservation:—</i>		
Water connections, sanitary,	\$1,474 03	
Town of Milton, water main,	843 43	
Maps,	92 50	
Water rates,	37 39	
Fire protection inspection,	18 00	
		2,465 35
<i>Middlesex Fells Reservation:—</i>		
<i>Landscape Architects:—</i>		
Services,	\$179 82	
Expenses,	3 21	
		\$183 03
New office building,	844 16	
Rent, superintendent's house,	432 00	
Carpenter shop,	395 27	
Repairs to buildings,	193 11	
Maps,	92 50	
Packing and shipping shrubs,	46 69	
Cement seats,	24 88	
Water rates,	18 74	
Fire protection inspection,	18 00	
Building cesspool,	12 75	
Mounting eagle,	10 85	
Squirrels,	10 00	
Pheasant,	6 00	
Cleaning cesspool,	5 00	
		2,292 98
<i>Amounts carried forward,</i>	\$10,668 25	\$173,400 25

Amounts brought forward, \$10,668 25 \$173,400 25

Revere Beach Reservation: —

Bath house: —

Pay rolls,	\$17,647 15
Bathing suits,	5,018 50
Lighting,	2,041 02
Engine room,	1,043 06
Coal,	963 70
Towels,	892 50
Stockings,	423 20
Lumber,	297 12
Hardware,	288 41
Valuable envelopes,	278 26
Paint,	277 03
Medicines and attendance,	264 43
Water rates,	230 90
Soap, etc.,	196 92
Toilet paper,	195 00
Flags,	187 73
Repairs,	182 02
Flag staffs,	160 00
Tickets,	140 92
Bathing caps,	132 00
Crash,	85 27
Hose,	79 50
Stationery,	66 58
Soda,	53 25
Lavatory,	48 00
Electric fans,	41 00
Shower heads,	38 40
Telephones,	38 06
Signs,	35 62
Key bands,	35 00
Bathing checks,	33 78
Findings,	33 13
Baskets,	33 00
Brooms,	32 00
Disinfectant,	31 25
Oil,	29 00
Polish,	28 00
Lost clothing,	27 20
Stenographic report of hearing,	25 00
Machinists' tools,	20 13
Oxone generator,	20 00
Bed linen,	18 45
Mantles and chimneys,	18 18
Castors,	18 00
Felt,	18 00
Cans,	16 15
Uniforms,	14 50
Brushes and combs,	14 40
Wringers,	14 32
Truck,	14 13
Sanitary napkins,	12 80
Gauze,	12 04
Mops,	11 30
Traveling expenses,	10 45
Scales,	9 85
Tide cards,	8 75
Water cooler,	8 55
Dusters,	7 54

Amounts carried forward, . . . \$31,920 45

\$10,668 25 \$173,400 25

<i>Amounts brought forward,</i>	\$31,920 45	\$10,668 25	\$173,400 25
Bath house — <i>Con.</i>			
Acme sprayers,	7 40		
Ash barrels,	6 00		
Sheet packing,	5 96		
Rope,	5 61		
Brushes,	5 60		
Electrical fixtures,	5 56		
Dust pans,	5 25		
Pitch,	4 91		
Step-ladders,	4 70		
Wrapping paper,	4 67		
Ammonia,	4 55		
Dippers,	3 85		
Slushing compound,	3 50		
Punches,	3 06		
Matches,	3 00		
Pails,	2 90		
Safety pins,	2 45		
Glue,	2 30		
Oars,	2 25		
Plumbers' supplies,	2 25		
Stencils,	2 00		
Oil cloth,	1 65		
Chair tips,	1 50		
Sprinklers,	1 49		
Reflectors,	1 35		
Ironing board,	1 20		
Starch,	1 20		
Flash-light,	1 13		
Miscellaneous,	3 35		
	<hr/>		
	\$32,021 09		
Fire protection inspection,	18 00		
	<hr/>		
		32,039 09	
Stony Brook Reservation: —			
Water rates,	\$64 00		
Repairs to buildings,	55 72		
	<hr/>		
		119 72	
Beaver Brook Reservation: —			
Fire protection inspection,	\$4 00		
	<hr/>		
		4 00	
Charles River Reservation: —			
Riverside Section: —			
Repairs to buildings,	\$105 05		
Water rates,	39 86		
Fire protection inspection,	12 00		
	<hr/>		
		156 91	
Speedway Section: —			
Landscape Architects, services,	\$5 00		
Repairs to buildings,	106 86		
Fire protection inspection,	12 00		
Advertising hearing,	3 00		
	<hr/>		
		126 86	
Lynn Shore Reservation: —			
Repairs to sea wall,	\$54 70		
	<hr/>		
		54 70	
Quincy Shore Reservation: —			
Architects,	\$200 00		
	<hr/>		
		200 00	
Winthrop Shore Reservation: —			
Repairs to road,	\$78 84		
	<hr/>		
		78 84	
<i>Amounts carried forward,</i>		\$43,448 37	\$173,400 25

Amounts brought forward, \$43,448 37 \$173,400 25

Middlesex Fells Parkway: —

New office building, \$39 50
Digging tree pits, 36 00
Fertilizer, 20 00

95 50

Mystic Valley Parkway: —

Payment on account of contract, James H. Fannon, \$1,028 17
Water rates, 42 00
Repairs to buildings, 35 74

1,105 91

Neponset River Parkway: —

Building wall, \$48 00
Water rates, 6 00
Repairs to buildings, 5 75

59 75

Nahant Beach Parkway: —

Bath-house: —

Pay rolls, \$4,549 24
Water rates, 534 32
Towels, 282 03
Lighting, 266 00
Paint, 169 74
Stockings, 160 00
Coal, 96 00
Telephones, 68 23
Bathing caps, 60 00
Medicines and attendance, 58 63
Toilet paper, 52 50
Lumber, 46 89
Cleaning cesspools, 30 00
Uniforms, 29 63
Keep of horses, 18 17
Castors, 18 00
Key bands, 17 50
Soap, etc., 17 25
Water coolers, 17 15
Brooms, 16 40
Baskets, 15 00
Polish, 10 00
Bed linen, 9 85
Dusters, 9 77
Disinfectant, 9 40
Gauge, 9 14
Ice, 7 30
Oil, 6 90
Findings, 5 95
Key blanks, 5 77
Electrical fixtures, 5 70
Crash, 5 50
Stationery, 5 35
Hardware, 4 55
Bathing suits, 4 00
Clock dials, 4 00
Drinking cups, 3 65
Acme sprayers, 3 63
Brushes and combs, 3 60
Tide cards, 3 50
Repairs, 3 20
Extinguisher charges, 3 00
Tickets, 2 75

Amounts carried forward, . . . \$6,649 19

\$44,709 53 \$173,400 25

<i>Amounts brought forward,</i>	\$6,649 19	\$44,709 53	\$173,400 25
Bath house — <i>Con.</i>			
Dust pans,	2 50		
Brushes,	1 92		
Mop handles,	80		
	<hr/>	\$6,654 41	
Planting,	106 25		
Shrubs,	35 95		
	<hr/>	6,796 61	
Furnace Brook Parkway: —			
Calcium chloride,	\$87 00		
	<hr/>	87 00	
Winthrop Parkway: —			
Advertising,	\$2 50		
	<hr/>	2 50	
Nantasket Beach Reservation: —			
Bath-house: —			
Pay rolls,	\$5,789 27		
Coal,	1,082 63		
Repairs,	617 48		
Water rates,	598 38		
Bathing suits,	547 86		
Towels,	299 88		
Hose,	211 20		
Engine room,	199 79		
Stockings,	120 00		
Paint,	87 60		
Lighting,	85 72		
Corrugated matting,	59 36		
Ice,	57 01		
Valuable envelopes,	50 65		
Crash,	45 17		
Laundry,	44 75		
Soap, etc.,	43 96		
Medicines and attendance,	42 34		
Life boat equipment,	41 29		
Report on steam apportionment,	35 00		
Telephones,	29 35		
Stationery,	25 17		
Sewing machine,	25 00		
Bathing caps,	24 00		
Uniforms,	21 00		
Findings,	19 80		
Tickets,	18 25		
Brooms,	16 65		
Employees' caps,	10 54		
Key bands,	10 50		
Barrels,	10 00		
Hardware,	9 83		
Pails,	9 65		
Power table,	9 50		
Mirrors,	9 20		
Disinfectant,	9 10		
Wheel barrow,	9 00		
Machine belting,	5 27		
Trestles,	5 15		
Postage stamps,	5 10		
Express,	4 52		
Electric store,	4 50		
Gauze,	4 01		
Picture frames,	3 88		
Fertilizer,	3 81		
	<hr/>		
<i>Amounts carried forward,</i>	\$10,362 12	\$51,595 64	\$173,400 25

Amounts brought forward, . . . \$10,362 12

\$51,595 64 \$173,400 25

Bath house — *Con.*

Acme sprayers,	3 78		
Polish,	3 00		
Twine,	2 64		
Stencils,	2 20		
Machinists' tools,	2 12		
Drinking cups,	1 90		
Brushes and combs,	1 80		
Funnels,	1 14		
Bodkins,	1 08		
Miscellaneous,	4 21		
		\$10,385 99	
Engineering expenses,	2 75		
Repairs and alterations in buildings,	14,511 62		
Architects,	200 00		
Fire apparatus,	183 83		
Rent of building,	122 50		
Report on steam apportionment,	35 00		
Fire protection inspection,	18 00		
Boat hooks,	15 00		
Express,	7 37		
Drain pipe rental,	5 00		
		25,487 06	
			77,082 70
Balance,			\$96,317 55

METROPOLITAN PARKS TRUST FUND.

Balance, Dec. 1, 1910, \$1,074 64

APPENDIX.

APPENDIX 1.

PROCEEDINGS BEFORE, AND DETERMINATION AND REPORT
OF, APPORTIONMENT COMMISSIONERS APPOINTED UNDER
THE ACTS OF 1899, CHAPTER 419, AND ACTS IN AMEND-
MENT THEREOF AND IN ADDITION THERETO, TO DETER-
MINE THE PAYMENTS TO BE MADE ANNUALLY BY CITIES
AND TOWNS DURING THE YEARS BEGINNING JAN. 1, 1910.

COMMONWEALTH OF MASSACHUSETTS.

SUFFOLK COUNTY.

SUPREME JUDICIAL COURT.

IN EQUITY.

In the matter of the petition of William B. de las Casas
et al., Metropolitan Park Commissioners, for appointment of
commissioners to determine payments by cities and towns under
Acts of 1899, chapter 419.

PETITION.

Respectfully represent William B. de las Casas, of Malden,
in the county of Middlesex, Edwin U. Curtis, of Boston, in
the county of Suffolk, David N. Skillings, of Winchester, in
said county of Middlesex, Ellerton P. Whitney of Milton, in the
county of Norfolk, and Everett C. Benton, of Belmont, in
said county of Middlesex, your petitioners:—

That they constitute the Board of Metropolitan Park Com-
missioners duly established under and by virtue of an act of
the Legislature of Massachusetts, entitled "An Act to estab-
lish a Metropolitan Park Commission," being chapter 407 of
the Acts passed in the year A.D. 1893, and acting under said
act and acts in amendment thereof and in addition thereto.

That in and by section 1 of chapter 419 of the Acts of the
Legislature of the year 1899 (a copy of which, together with
a copy of section 2 of said last-mentioned act, is hereto an-
nexed, marked "Exhibit A") it is provided that, in order to
determine the proportionate sums annually to be paid into the

treasury of the Commonwealth by the various cities and towns within the Metropolitan Parks District, beginning with the first day of January in the year 1910 and continuing until the first day of January in the year in which a new award is made, as therein provided; to meet the interest and sinking fund requirements therein provided for; and to provide the amount required to meet the expenses of said Board, and of the care, maintenance and operation of the parks, reservations, boulevards and other works acquired, cared for and controlled by said Board, as therein provided,—there shall be three commissioners appointed for that purpose by this honorable court, on petition of this Board.

That for the purpose of carrying out the provisions of said acts it is necessary and expedient that said commissioners be appointed by the court as aforesaid.

They therefore pray that after such notice as this honorable court shall order, if any, there may be three commissioners appointed in the manner and for the purposes, and with all the rights, powers, privileges, duties and obligations in said act of 1899 mentioned or referred to.

And for greater certainty in all matters and things connected with this petition and the subject-matter thereof, your petitioners crave leave to refer to the Acts of 1893, chapter 407, and all acts in amendment thereof and in addition thereto.

WILLIAM B. DE LAS CASAS,
EDWIN U. CURTIS,
DAVID N. SKILLINGS,
ELLERTON P. WHITNEY,
EVERETT C. BENTON,

Metropolitan Park Commissioners.

By DANA MALONE,
Attorney-General.

EXHIBIT A.

[St. 1899, CHAPTER 419, SECTIONS 1, 2.]

SECTION 1. In the year nineteen hundred and in every fifth year thereafter the supreme judicial court in equity, on application of the metropolitan park commission or of the attorney-general, or of any city or town of the metropolitan parks district by its attorney, and after such notice as the said court may order to each city and town of that district, shall appoint three commissioners, neither of whom shall be a resident of any city or town in said district, who shall, after such notice and hearing as they deem sufficient and in such manner as they deem just and equitable, determine and make award of the proportions in which each of the cities and towns of said district shall annually pay money into the treasury of the Commonwealth, beginning with the first day of January of the year in which such commissioners are required to be appointed, until the first day of January of the year in which a new award is made hereunder, to provide the amount for that year as estimated by the treasurer of the Commonwealth to meet the interest and sinking fund requirements of the appropriations and loans authorized by chapter four hundred and seven of the acts of the year eighteen hundred and ninety-three, chapter two hundred and eighty-eight of the acts of the year eighteen hundred and ninety-four, chapter three hundred and five of the acts of the year eighteen hundred and ninety-five, and all acts in addition thereto and in amendment thereof, and the amount required to meet the expenses for that year of said board of metropolitan park commissioners, and of the care, maintenance and operation for that year of the parks, reservations, boulevards and other works acquired, cared for or controlled by said board under said acts, as annually authorized by the general court, and the deficiency, if any, in the estimates and payments for the preceding year as found by said treasurer, and shall return their award thus determined into said court: *provided, however,* that the commissioners shall fix and return the proportion to be paid by the city of Boston for each year of the first of said terms at fifty per cent. Every such award when accepted by said court shall be a final and conclusive adjudication for the term for which it is made, of all matters referred to the commissioners and shall be binding upon all parties.

SECTION 2. The treasurer shall in the year nineteen hundred and in each year thereafter estimate the several amounts required for that year from each city and town of said district, in accordance with said award, to provide the entire amount needed to meet the interest and sinking fund requirements of the appropriations and loans authorized by said chapter four hundred and seven of the acts of

the year eighteen hundred and ninety-three, and acts in addition thereto and in amendment thereof, and to meet the expense for that year of said metropolitan park commission incurred under said acts, and of the care, maintenance and operation of the parks, reservations and works acquired, cared for and controlled by said board under said acts, and the deficiency in the estimates and payments for these purposes for the previous year; and the treasurer shall also in the same manner estimate the several amounts required for that year from each city and town of said district to provide one half of the entire amount needed to meet the interest and sinking fund requirements of the appropriations and loans authorized by chapter two hundred and eighty-eight of the acts of the year eighteen hundred and ninety-four, and acts in addition thereto and in amendment thereof, and one half of the expense for that year of said metropolitan park commission under said acts, and of the care, maintenance and operation of the roads, boulevards and other works acquired, cared for and controlled by said board under said acts, and one half of the deficiency in the estimates and payments under said acts for these purposes for the preceding year, and shall include the several amounts thus estimated to be needed each year from each city and town of said district in the sum to be paid by each as its state tax for that year, and shall charge the remaining one half of the entire amount required for that year for interest, sinking fund requirements and for expenses and deficiency, as aforesaid, under said chapter two hundred and eighty-eight of the acts of the year eighteen hundred and ninety-four to the Commonwealth, and shall include the same in the annual state tax for that year; and the amounts thus required in each year of the several cities and towns of said district and of the Commonwealth shall be paid by each into the treasury of the Commonwealth at the time required for the payment and as a part of the state tax of each for that year.

NOTICE.

COMMONWEALTH OF MASSACHUSETTS.

SUFFOLK, SS.

SUPREME JUDICIAL COURT.

On the foregoing petition it is ordered that the petitioner give notice to the cities of Boston, Cambridge, Chelsea, Everett, Lynn, Malden, Medford, Melrose, Newton, Quincy, Somerville, Waltham and Woburn, and the towns of Arlington, Belmont, Braintree, Brookline, Canton, Dedham, Dover, Hingham, Hull, Hyde Park, Milton, Nahant, Needham, Revere, Saugus, Stoneham, Swampscott, Wakefield, Watertown, Wellesley, Weston, Weymouth, Winchester, and Winthrop to appear before the justices of this court, to be holden at Boston within and for said county of Suffolk on Tuesday, the fifth day of April, next,

9½ o'clock, in the forenoon, by forthwith mailing, by registered letter to each of them, an attested copy of said petition and of this order, that they may then and there appear and show cause why the prayer of said petition should not be granted.

By the court,

WALTER F. FREDERICK,
Clerk.

JAN. 21, 1910.

A true copy. Attest:
JOHN H. FLYNN,
Assistant Clerk.

The proof of service of notice was as follows:—

FEB. 11, 1910.

Notice has been given to the cities and towns named in the within petition, by mailing, by registered letter, to each of them an attested copy of said petition and order, as therein directed.

DANA MALONE,
Attorney-General.

SUPPLEMENTAL NOTICE TO COHASSET AND WESTWOOD.

COMMONWEALTH OF MASSACHUSETTS.

SUFFOLK, SS.

SUPREME JUDICIAL COURT.

On the foregoing petition it is ordered that the petitioners give notice to the towns of Cohasset and Westwood to appear before the justices of this court, to be holden at Boston within and for said county of Suffolk on Tuesday, the twelfth day of April, next, at 9½ o'clock, in the forenoon, by forthwith mailing by registered letter to each of them an attested copy of said petition and of this order, that they may then and there appear and show cause why the prayer of said petition should not be granted.

By the court,

JOHN H. FLYNN,
Assistant Clerk.

APRIL 5, 1910.

A true copy. Attest:
JOHN H. FLYNN,
Assistant Clerk.

The proof of service of supplemental notice was as follows:—
Service of the within petition and order has been made by mailing, by registered letter, as directed.

DANA MALONE,
Attorney-General.

APPOINTMENT OF COMMISSIONERS.

COMMONWEALTH OF MASSACHUSETTS.

SUFFOLK, SS.

SUPREME JUDICIAL COURT.

IN EQUITY.

In the matter of the petition of William B. de las Casas *et al.*, Metropolitan Park Commissioners, for the appointment of commissioners to determine payments by cities and towns under Acts of 1899, chapter 419.

DECREE.

And now, upon the above-entitled petition, it appearing to the court that due notice thereof was given to all cities and towns, respondents, according to the order of the court, and after due hearing thereof, no person objecting, it is ordered that Ernest H. Vaughan of Worcester, Charles G. Bancroft of Natick and Fred S. Hall of Taunton be and they are hereby appointed commissioners under section 1 of chapter 419 of the Acts of the year 1899, to determine and make award of the proportions in which each of the cities and towns of said district shall annually pay money into the treasury of the Commonwealth, beginning with the first day of January in the year 1910, until the first day of January of the year in which a new award is made as provided for by said act; to provide the amount for each of said years as estimated by the Treasurer of the Commonwealth to meet the interest and sinking fund requirements therein provided for; and to provide the amount required to meet the expenses of said Board of Metropolitan Park Commissioners, and of the care, maintenance and operation of the parks, reservations, boulevards and other works acquired, cared for and controlled by said Board, as therein provided, and the deficiency, if any, in the estimates and payments for the preceding year as found by said Treasurer; and to do and perform all the other duties prescribed for them by said act and by chapter 464 of the Acts of 1899, entitled "An Act to authorize the Metropolitan Park Commission to take, control and manage Nantasket Beach and Adjacent Lands and Waters," and by chapter 465 of the

Acts of 1903, entitled “An Act to authorize the Construction of a Dam across the Charles River between the Cities of Boston and Cambridge,” as amended by chapter 402 of the Acts of 1906, entitled “An Act relative to the Charles River Basin,” and by all other acts of the Legislature imposing powers and duties upon said commissioners, and to exercise all the powers thereby and by law reposed upon said commissioners by any and all acts of the Legislature.

By the court,

WALTER F. FREDERICK,
Clerk.

APRIL 26, 1910.

A true copy. Attest:

JOHN H. FLYNN,
Assistant Clerk.

The commissioners appointed under the foregoing decree were duly sworn on the twentieth day of May, 1910, by John Woodbury, Justice of the Peace.

On the twenty-fifth day of May, 1910, the commissioners issued the following notice and order thereon:—

COMMONWEALTH OF MASSACHUSETTS.

SUFFOLK, SS.

SUPREME JUDICIAL COURT.

IN EQUITY.

No. 14711.

In the matter of the petition of William B. de las Casas *et al.*, Metropolitan Park Commissioners, for appointment of commissioners to determine payments by cities and towns under Acts of 1899, chapter 419.

We, the undersigned, appointed commissioners in the above-entitled cause by decree of the Supreme Judicial Court on the twenty-sixth day of April, 1910, hereby give notice that the commissioners will meet and hear all parties interested in the above entitled cause on Thursday, June 2, 1910, at the office of the Metropolitan Park Commission, 14 Beacon Street, Boston, at 10 o'clock A.M.

Dated at Boston, Massachusetts, this twenty-fifth day of May, 1910.

ERNEST H. VAUGHAN.
CHARLES G. BANCROFT.
FREDERICK S. HALL.

Somerville,	Frank W. Kaan.
Waltham,	Thomas F. Carey.
Woburn,	Not represented.
Arlington,	James A. Bailey, Jr.
Belmont,	Amos L. Taylor.
Braintree,	Charles C. Mellen.
Brookline,	{ James F. Jackson. Charles F. Rowley.
Canton,	Not represented.
Cohasset,	William R. Sears.
Dedham,	Not represented.
Dover,	Richard W. Hale.
Hingham,	Joseph O. Burdett.
Hull,	Thomas H. Buttimer.
Hyde Park,	Edwin C. Jenny.
Milton,	Charles S. Pierce.
Nahant,	Niles, Stevens, Underwood & Mayo.
Needham,	Not represented.
Revere,	Cutler & James.
Saugus,	Not represented.
Stoneham,	Luther Hill.
Swampscott,	Parsons & Bowen.
Wakefield,	Maynard E. S. Clemons.
Watertown,	John E. Abbott.
Wellesley,	{ George A. Sweetser. Charles F. Choate, Jr.
Weston,	Samuel C. Bennett.
Westwood,	Edwin C. Jenny.
Weymouth,	Albert P. Worthen.
Winchester,	Ralph E. Joslin.
Winthrop,	Not represented.

As directed by the decree of the court appointing the commissioners and defining their authorities and duties, they have viewed all the metropolitan parks and boulevards included within the Metropolitan Parks District. They have also examined many local parks in the district.

The commissioners have fully investigated the locations of the parks, boulevards and reservations now under the control of the Metropolitan Park Commission, and have observed and considered the use made of the same.

The commissioners have assumed it to be one of their duties, in order to arrive at a just and equitable distribution of the

expense of the maintenance of the metropolitan parks, boulevards and reservations, that they should observe and consider the actual user thereof, so that they might determine the proportionate benefit to the people residing within the district.

In connection with the study of the proximity, accessibility and use of the metropolitan parks, boulevards and reservations within the system, the commissioners have on several occasions examined, viewed and considered the transportation facilities for reaching the same by residents of the district. Evidence was presented as to the length of time and the expenditure of money necessary to reach the different parks, boulevards and reservations within the district.

The authority given by statute to the Metropolitan Park Commission to take by right of eminent domain certain lands and waters within the Metropolitan Parks District, apparently contemplated the ultimate taking and development of other areas within the district which have not yet been acquired, so that when the plan, originally intended and adopted by the Legislature, is later carried out, many of the parks which are now widely separated will form substantially a connected and complete system.

It appears to the commissioners that at the present time some cities and towns have been, and should be, assessed a proportion of the expense of construction and maintenance of the system, from which they have not yet received, and will not immediately receive, any direct benefit until its final completion.

The parks, whether as a system or as separate reserves, are for the benefit of the public; in other words, the benefit of parks, whether in a system or apart from a system, is to those who do or may use them. Parks, whether local in municipalities, or a part of a system such as Boston has, and such as will exist in the Metropolitan Parks District, with the anticipation of future additions and natural developments, contribute to the better health and welfare of the public, especially the younger part of the community, and to the general uplift and improvement of citizenship.

Many tables, based upon various combinations, have been prepared for the consideration of the commissioners in their endeavor to reach a conclusion which should commend itself as just and equitable. It was frequently contended during the hearings that valuation furnished the only basis from which proper conclusions could be drawn; but the commissioners believe that population, taken in connection with proximity, avail-

ability, transportation facilities and density of population, when considered with the numerous views of the various parks, should to a certain extent be used in combination with valuation, in forming a just and equitable plan on which the apportionment to the several cities and towns in the district should be made. In making such a combination it has seemed fair to relieve from assessment, beyond a certain point, some towns remotely located, peculiarly situated, and in which as yet no metropolitan developments have taken place.

From the time when this great metropolitan work was first considered up to the present, the different commissioners who have given special study to these matters have recognized that there are strong reasons for discriminating between the contributions which the fringe towns of the district, included in it apparently for geographical considerations, should make, as compared with cities and towns in the district less remotely located and less peculiarly situated.

Results of the various tabulations made for them have been considered solely with the purpose of determining on what basis a just and equitable apportionment could be made; and they believe that no method, because of prior use, should be considered a precedent unless it commends itself to the commissioners as resulting in such a conclusion.

In addition to the foregoing general observations, there have been presented to the commissioners, by the representatives of the cities and towns appearing and attending the views and sessions, contentions and suggestions in regard to what appeared to them to be a just and equitable method or rule of apportionment of the expense of the maintenance of the Metropolitan Parks System. The principal suggestions made to aid the commissioners in arriving at a just and equitable apportionment of the expense of the maintenance of the system are as follows:—

1. That weight should be given to the awards of prior commissions, and counsel have urged that the commissioners are bound to follow such awards as precedents.

The commissioners are familiar with the reports of preceding commissions, as quoted and cited at the hearings.

The commissioners do not consider that the quotations read from reports and the statements made in the awards of former commissions are precedents, especially in view of the statement which was presented from the report of the last commission, in the following language:—

“It is apparent from this review” (of reports of former com-

missions) "that no special rule has so commended itself to previous commissions as to have become a precedent of binding or even strongly persuasive authority."

Many and substantial changes occur and are likely to occur within the Metropolitan Parks District in a period of five years, so that what might appear to be reasons for the adoption of a certain rule by one commission fail entirely, or are more or less modified, when the next commission seeks to arrive at a just and equitable apportionment.

2. Counsel argued in the early proceedings before the commissioners, and in instances insisted, that the apportionment must be made upon the basis of valuation in the cities and towns, for the reason that no other intelligent apportionment could be made.

3. Again, that the rule of apportionment should be based solely upon the valuation of personal estate in the cities and towns.

4. Counsel have also argued that the commissioners ought in justice and equity to take into account expenditures already made in certain municipalities for parks, and in some instances parks and playgrounds.

4a. It was also argued that the assessment made upon the city of Boston should be upon a different basis from that made upon the other cities and towns within the district; and the claim was made, on the one hand, that Boston should not be assessed exceeding fifty (50) per cent., because the original statute fixed that as the percentage of assessment for the definite term stated in the statute; and,

4b. On the other hand, it was claimed that Boston should pay more on account of its density of population, and the greater use made by its population of the parks than was made by other cities and towns in proportion to their population.

5. Another claim presented to the commissioners was, that credit should be given to certain municipalities by reason of the improvements or betterments which had resulted from the establishment of parks and boulevards within their borders.

6. Claim was made that certain cities and towns should fare better than others, because of the fact that certain areas of taxable property had been appropriated by the Metropolitan Park Commission, and consequently the tax thereon was lost.

The commissioners have listened to all claims and suggestions, and have given them careful consideration.

The evidence before the commissioners furnished by the State Treasurer is that the several following sums are required to be paid into the State treasury for the year 1910, under the provisions of the statute:—

1. Parks,	.	.	.	.	.	.	.	.	.	\$884,169 06
2. Nantasket,	.	.	.	.	.	.	.	.	.	55,586 09
3. Boulevards,	.	.	.	.	.	.	.	.	.	214,797 26

It appeared that the cost of the Dam and Basin to July 6, 1910, was \$3,877,817.69.

After due and extended consideration of the evidence and arguments submitted to the commissioners, and after views and observations of the matters involved, they deem it just and equitable, and therefore determine, make award and report as follows:—

DETERMINATION AND REPORT OF THE COMMISSIONERS.

I.

Parks.

The commissioners hereby determine and make award of the proportions in which each of the cities and towns of the Metropolitan Parks District shall annually pay money into the treasury of the Commonwealth beginning with the first day of January in the year 1910, until the first day of January of the year in which a new award is made as provided by law, to provide the amount for each of said years as estimated by the Treasurer of the Commonwealth, to meet the interest and sinking fund requirements as provided by law, and to provide the amount required to meet the expenses of the Board of Metropolitan Park Commissioners, and of the care, maintenance and operation of the parks and reservations, and other works acquired, cared for and controlled by said Board, as provided by law, exclusive of boulevards, Nantasket Beach and Charles River Dam and Basin, and the deficiency, if any, in the estimates and payments for the preceding year as found by the treasurer of the Commonwealth.

1. Sixty (60) per cent. of the aggregate sum of the requirements enumerated above shall be apportioned according to the valuation of the several cities and towns within the district, as fixed by statute for the year 1910.

2. Twenty-five (25) per cent. of the aggregate sum of the said requirements shall be apportioned among the cities and towns in the district, according to the several valuations thereof, as fixed by statute for the year 1910, excluding, however, from said apportionment the following towns, viz.:—

Braintree, Canton, Dover, Hull, Nahant, Hingham, Westwood and Weymouth.

3. Fifteen (15) per cent. of the aggregate sum of the said requirements shall be apportioned among the cities and towns in the district, in proportion to the population of each city and town to the entire population of the district, excluding, however, from said apportionment the following towns, viz.:—

Braintree, Canton, Dover, Hull, Nahant, Hingham, Westwood and Weymouth.

The percentages to be paid in money annually into the treasury of the Commonwealth by each of the cities and towns within the Metropolitan Parks District, based upon the foregoing considerations, they find to be as follows:—

TABLE A. — *Parks.*

Boston, . . .	.59453	Hingham, . . .	.00179
Cambridge, . . .	.05328	Hull, . . .	.00144
Chelsea, . . .	.01289	Hyde Park, . . .	.00721
Everett, . . .	.01368	Milton, . . .	.01188
Lynn, . . .	.03691	Nahant, . . .	.00208
Malden, . . .	.02135	Needham, . . .	.00280
Medford, . . .	.01142	Revere, . . .	.00773
Melrose, . . .	.00797	Saugus, . . .	.00301
Newton, . . .	.03400	Stoneham, . . .	.00267
Quincy, . . .	.01478	Swampscott, . . .	.00481
Somerville, . . .	.03241	Wakefield, . . .	.00479
Waltham, . . .	.01351	Watertown, . . .	.00708
Woburn, . . .	.00594	Wellesley, . . .	.00621
Arlington, . . .	.00564	Weston, . . .	.00344
Belmont, . . .	.00312	Westwood, . . .	.00071
Braintree, . . .	.00167	Weymouth, . . .	.00214
Brookline, . . .	.04653	Winchester, . . .	.00608
Canton, . . .	.00119	Winthrop, . . .	.00559
Dedham, . . .	.00624		
Dover, . . .	.00148		
			<hr/> 1.00000

II.

Boulevards.

There are within the district approximately thirty-one (31) miles of metropolitan boulevards, located in eighteen (18) of the cities and towns therein. In twenty (20) cities and towns of the district there are no metropolitan boulevards.

The commissioners find that the location of these boulevards within the several cities and towns in which they have been constructed has brought about a substantial saving to the communities accommodated thereby, both on account of the fact that they have in many instances taken the place of the then existing highways, and because in other instances they have forestalled the necessity for new roads. Consequently, such cities and towns are to an extent relieved of the expense of construction and maintenance. The commissioners therefore have decided that the municipalities having such boulevards should be required to contribute more than the other cities and towns in the district.

One-half of the interest and sinking fund requirements and one-half of the expense of care and maintenance and one-half of the office and running expenses of the Metropolitan Park Commissioners occasioned by roadways and boulevards, are by the statute to be paid by the Commonwealth, and the other half by the cities and towns in the Metropolitan Parks District.

The commissioners deem it just and equitable and therefore determine and award that the balance of the sums mentioned in the preceding paragraph shall be apportioned, one-quarter to the cities and towns having metropolitan boulevards within their territory, in the proportion which the mileage of the same in each city and town bears to the total mileage of the metropolitan boulevards, and the remaining three-quarters of such balance shall until the next apportionment be apportioned to the cities and towns within the district according to the several valuations thereof, as fixed by statute for the year 1910.

The percentages to be paid in money annually into the treasury of the Commonwealth by each of the cities and towns within the Metropolitan Parks District, based upon the foregoing considerations, they find to be as follows: —

TABLE B. — *Boulevards.*

Boston, . . . .	.46943	Hingham, . . . .	.00223
Cambridge, . . . .	.05317	Hull, . . . .	.00180
Chelsea, . . . .	.01463	Hyde Park, . . . .	.01052
Everett, . . . .	.02184	Milton, . . . .	.03957
Lynn, . . . .	.02480	Nahant, . . . .	.02020
Malden, . . . .	.02644	Needham, . . . .	.00198
Medford, . . . .	.04294	Revere, . . . .	.03093
Melrose, . . . .	.01322	Saugus, . . . .	.00188
Newton, . . . .	.02602	Stoneham, . . . .	.00214
Quincy, . . . .	.04393	Swampscott, . . . .	.00363
Somerville, . . . .	.02929	Wakefield, . . . .	.00311
Waltham, . . . .	.00919	Watertown, . . . .	.00498
Woburn, . . . .	.00375	Wellesley, . . . .	.00493
Arlington, . . . .	.01057	Weston, . . . .	.00281
Belmont, . . . .	.00594	Westwood, . . . .	.00088
Braintree, . . . .	.00208	Weymouth, . . . .	.00268
Brookline, . . . .	.03815	Winchester, . . . .	.01849
Canton, . . . .	.00148	Winthrop, . . . .	.00393
Dedham, . . . .	.00459		
Dover, . . . .	.00185		
			<hr/> 1.00000

III.

Nantasket Beach Reservation.

The commissioners conclude, as the result of evidence produced before them and from views taken of Nantasket Reservation, that the use made of it is of a broad and general nature, enjoyed by people residing largely without as well as within the district. Its location is such that a considerable expenditure both of time and money is involved in enjoying its benefits. User of this reservation is of such a nature that population has not been taken as an element in forming the basis of this apportionment, and they therefore determine and make award that the proportion in which the cities and towns of the district, including the town of Cohasset, shall annually until the next apportionment pay into the treasury of the Commonwealth the sums necessary to meet the sinking fund and interest requirements and the care and cost of maintenance of the Nantasket Beach Reservation, shall be according to the several valuations thereof, as fixed by statute for the year 1910, and that the proportion to be paid by the town of Cohasset shall be its proportion according to valuation upon the same basis.

The percentages to be paid in money annually into the treasury of the Commonwealth by each of the cities and towns within the Metropolitan Parks District, based upon the foregoing considerations, they find to be as follows:—

TABLE C.—*Nantasket Beach Reservation.*

Boston, . . . .	.60768	Hingham, . . . .	.00296
Cambridge, . . . .	.04879	Hull, . . . .	.00240
Chelsea, . . . .	.01090	Hyde Park, . . . .	.00643
Everett, . . . .	.01169	Milton, . . . .	.01284
Lynn, . . . .	.03168	Nahant, . . . .	.00345
Malden, . . . .	.01925	Needham, . . . .	.00263
Medford, . . . .	.01038	Revere, . . . .	.00670
Melrose, . . . .	.00730	Saugus, . . . .	.00249
Newton, . . . .	.03457	Stoneham, . . . .	.00222
Quincy, . . . .	.01309	Swampscott, . . . .	.00482
Somerville, . . . .	.02797	Wakefield, . . . .	.00414
Waltham, . . . .	.01222	Watertown, . . . .	.00662
Woburn, . . . .	.00498	Wellesley, . . . .	.00655
Arlington, . . . .	.00515	Weston, . . . .	.00374
Belmont, . . . .	.00293	Westwood, . . . .	.00117
Braintree, . . . .	.00277	Weymouth, . . . .	.00356
Brookline, . . . .	.05068	Winchester, . . . .	.00591
Canton, . . . .	.00197	Winthrop, . . . .	.00523
Cohasset, . . . .	.00360		
Dedham, . . . .	.00609		1.00000
Dover, . . . .	.00245		

IV.

Charles River Dam and Basin.

1. *Maintenance.*—The different works to be performed under the Charles River Dam and Basin Acts have been completed, and they now occupy a central location in the Metropolitan Parks System.

In viewing these works, the commissioners observed that at the present time little use is being made of them, outside of the lock, dam and roadway thereon. When this new addition to the Metropolitan Parks System has been longer in use, a sounder judgment can be passed upon the actual and probable user by the public. They therefore decide that the elements of population and user should not at this time be taken into consideration in their apportionment, either of the cost of maintaining or constructing these great public works.

The commissioners determine and make award that all expenses of maintenance of the Charles River Dam and Basin and other works, incurred under chapter 465 of the Acts of the year 1903, as amended by chapter 402 of the Acts of the year 1906 or by any other acts in amendment thereof or in addition thereto, shall be borne by the cities and towns in the Metropolitan Parks District in proportion to valuation.

2. Suitable Bridge.—The statutes provide that the commissioners shall ascertain and report what the construction of a suitable bridge to replace Craigie Bridge between Boston and Cambridge would have cost, and what would have been the cost of the removal of the old Craigie Bridge; and the statutes further provide that such sums, when ascertained, shall be paid by the cities of Boston and Cambridge.

The commissioners viewed on various occasions the location of Craigie Bridge, the territory accommodated by it, observed the traffic at divers times crossing the river at that place, noted the construction and location and grades of other bridges serving that locality, and heard evidence of experts and others upon all matters, and other evidence and suggestions as to what would have been an adequate structure by way of replacement; and, upon consideration of all the arguments, situation and views taken by them, they determine that it would have been necessary to expend the sum of twelve hundred thousand dollars (\$1,200,000) to provide such a bridge as was contemplated by the statutes, and to remove the old Craigie Bridge, said sum including the cost and maintenance of a temporary bridge, as hereinafter determined.

The commissioners apportion said sum to the cities of Boston and Cambridge, in accordance with the provision of the statute.

3. Temporary Bridge.—The commissioners find that a temporary bridge would have been necessary during the time occupied in the removal of the old bridge and the construction of a suitable bridge, and they determine and report that the cost of construction and maintenance of such temporary structure would have been a part of the cost of a suitable bridge, and further determine and report that the cost of construction and maintenance of such temporary structure during such interval would have been one hundred thousand dollars (\$100,000). They have therefore included said sum of one hundred thousand dollars (\$100,000) in the sum of twelve hundred thou-

sand dollars (\$1,200,000) hereinbefore found and determined to be the amount necessary to provide for the suitable bridge contemplated by the statutes, and the removal of the old Craigie Bridge.

If the court determines that this finding by the commissioners is error, then the commissioners find and report that it would have been necessary to expend only the sum of eleven hundred thousand dollars (\$1,100,000) to provide such a bridge as was contemplated by the statutes, and the removal of the old Craigie Bridge.

4. *Broad and Lechmere Canals.*—Dredging and other improvements have been made in Broad and Lechmere canals, so that the depth of water at the different places named in section 4 of chapter 465 of the Acts of the year 1903 has been provided, and is maintained at all times. The commissioners consider that this work has resulted in a special and peculiar benefit to the city of Cambridge, and they find and award that fifty (50) per cent. of the whole cost of this dredging and improvement is apportioned to the city of Cambridge, and the remaining fifty (50) per cent. of such cost is apportioned to the cities and towns in the Metropolitan Parks District, including the city of Cambridge, in proportion to valuation, as fixed by statute for the year 1910.

5. *Boston Embankment and Park.*—The cost of the construction of the embankment and park on the south side of the Basin, when ascertained by the commissioners, is by law apportioned to the city of Boston. From the evidence submitted to the commissioners they find that the cost of the construction of the said embankment and park was eight hundred and forty-seven thousand six hundred and thirty-six dollars and forty-three cents (\$847,636.43).

6. *Boston Marginal Conduit.*—The commissioners on the evidence find the cost of the marginal conduit on the south side of the Basin to be the sum of six hundred and forty-two thousand five hundred and seventy-nine dollars and ninety-nine cents (\$642,579.99).

The commissioners find that the city of Boston has received a special and peculiar benefit from the construction of this conduit, and they find and apportion to the city of Boston sixteen and two-thirds ($16\frac{2}{3}$) per cent. of the entire sum expended in the construction of said conduit, and they apportion the

remainder of said cost to the cities and towns in the Metropolitan Parks District, including Boston, according to valuation as fixed by statute for the year 1910.

7. *Cambridge Marginal Conduit.* — The conduit on the north side of the Basin in the city of Cambridge has been constructed and is in successful operation. The cost of its construction, the commissioners find upon the evidence and report, was one hundred and one thousand nine hundred and nine dollars and twenty-eight cents (\$101,909.28). The commissioners find that this conduit is of special and peculiar benefit to the city of Cambridge, and they therefore find and apportion to the city of Cambridge sixteen and two-thirds ($16\frac{2}{3}$) per cent. of the total cost thereof, and they apportion the remainder of said cost to the cities and towns in the Metropolitan Parks District, including Cambridge, according to valuation as fixed by statute for the year 1910.

8. *Basin, Dam and Other Works.* — The commissioners determine and report that all other sums to be apportioned by them in accordance with the requirements of the statutes shall be paid by the cities and towns in the Metropolitan Parks District in proportion to valuation as fixed by statute for the year 1910.

After deducting the cost of the suitable bridge and the removal of the old Craigie Bridge and the cost of the Boston embankment, the commissioners, in accordance with the foregoing findings, determine and make award that the proportions in which the several cities and towns in the Metropolitan Parks District shall annually pay money into the treasury of the Commonwealth necessary to meet the office expenses of the Metropolitan Park Commission, the care and cost of maintenance and all other lawful charges with reference to the Charles River Dam and Basin, excepting therefrom sinking fund and interest requirements, for the term beginning Jan. 1, 1910, until the first day of January of the year in which a new award is made as provided by law, shall be as follows:—

TABLE D. — *Charles River Dam and Basin.*

Boston, . . . .	.60987	Hingham, . . . .	.00298
Cambridge, . . . .	.04897	Hull, . . . .	.00241
Chelsea, . . . .	.01094	Hyde Park, . . . .	.00646
Everett, . . . .	.01173	Milton, . . . .	.01289
Lynn, . . . .	.03180	Nahant, . . . .	.00347
Malden, . . . .	.01932	Needham, . . . .	.00264
Medford, . . . .	.01041	Revere, . . . .	.00672
Melrose, . . . .	.00732	Saugus, . . . .	.00250
Newton, . . . .	.03469	Stoneham, . . . .	.00222
Quincy, . . . .	.01313	Swampscott, . . . .	.00484
Somerville, . . . .	.02807	Wakefield, . . . .	.00415
Waltham, . . . .	.01226	Watertown, . . . .	.00664
Woburn, . . . .	.00500	Wellesley, . . . .	.00658
Arlington, . . . .	.00517	Weston, . . . .	.00375
Belmont, . . . .	.00294	Westwood, . . . .	.00118
Braintree, . . . .	.00278	Weymouth, . . . .	.00357
Brookline, . . . .	.05087	Winchester, . . . .	.00593
Canton, . . . .	.00198	Winthrop, . . . .	.00524
Dedham, . . . .	.00612		
Dover, . . . .	.00246		<hr/> 1.00000

They also determine and make award that the proportions in which the several cities and towns in the Metropolitan Parks District shall annually pay money into the treasury of the Commonwealth necessary to meet the sinking fund and interest requirements for the Charles River Dam, Basin and other works connected therewith for the term beginning Jan. 1, 1910, until the first day of January of the year in which a new award is made as provided by law, shall be as follows:—

TABLE E. — *Charles River Dam and Basin. — Sinking Fund and Interest Requirements.*

Boston, . . . .	.60021	Hingham, . . . .	.00266
Cambridge, . . . .	.09501	Hull, . . . .	.00215
Chelsea, . . . .	.00977	Hyde Park, . . . .	.00577
Everett, . . . .	.01048	Milton, . . . .	.01152
Lynn, . . . .	.02841	Nahant, . . . .	.00310
Malden, . . . .	.01726	Needham, . . . .	.00236
Medford, . . . .	.00930	Revere, . . . .	.00600
Melrose, . . . .	.00654	Saugus, . . . .	.00223
Newton, . . . .	.03099	Stoneham, . . . .	.00198
Quincy, . . . .	.01173	Swampscott, . . . .	.00432
Somerville, . . . .	.02508	Wakefield, . . . .	.00371
Waltham, . . . .	.01095	Watertown, . . . .	.00593
Woburn, . . . .	.00447	Wellesley, . . . .	.00588
Arlington, . . . .	.00462	Weston, . . . .	.00335
Belmont, . . . .	.00263	Westwood, . . . .	.00105
Braintree, . . . .	.00248	Weymouth, . . . .	.00319
Brookline, . . . .	.04545	Winchester, . . . .	.00530
Canton, . . . .	.00177	Winthrop, . . . .	.00468
Dedham, . . . .	.00547		
Dover, . . . .	.00220		1.00000

The special charges to Boston and Cambridge for marginal conduits and canals make necessary Table E.

REQUESTS FOR RULINGS AND FINDINGS.

The city of Somerville requested a statement of findings on the following matters, "if population is used as a basis to any extent":—

1. What changes in conditions, if any, have taken place since the apportionment of the year 1900.

Refused.

2. What changes in conditions, if any, have taken place since the apportionment of the year 1905.

Refused.

3. The reasons for using population as a basis.

Reasons given in the report.

4. The facts on account of which population is used as a basis.

Stated in report.

The town of Belmont requested the commissioners to rule and find as follows:—

(a) That the costs, and expenses for care, maintenance and operation of the Metropolitan parks and reservations for the next five years shall be paid by each of the municipalities of the district on the basis of its valuation of real and personal property alone.

Refused.

(b) That each municipality shall pay $12\frac{1}{2}$ per cent. of the cost, and expenses for the care, maintenance and operation, of the Metropolitan boulevards within its borders, and that the remaining $37\frac{1}{2}$ per cent. thereof shall be paid by the entire Metropolitan District upon the valuation basis as above.

Ruling as stated refused.

(c) That an apportionment based on population would be unjust and inequitable, and that it is impossible, impracticable and undesirable to use this method alone or in any combination with other methods.

Refused.

(d) That the location and maintenance of the Beaver Brook Reservation, partly within the town of Belmont, confers no benefit whatever upon the town, but that, on the contrary, it is a positive detriment and an expensive source of annoyance and trouble.

Refused.

(e) That the inhabitants of Belmont did not and do not need the Beaver Brook Reservation for their use, nor any of the parks or reservations.

Refused.

(f) That this respondent had adequate and satisfactory parks and playgrounds, with an ample amount of open country for a long period of time.

Refused.

(g) That the inhabitants of Belmont make practically no use of the Beaver Brook Reservation, and very slight, if any, use of the other parks and reservations.

Refused.

(h) That the location of Belmont and its facilities for travel are such that the parks and reservations are not available for use by its residents.

Refused.

(i) That the distance to the reservations and return in most cases is prohibitive, and when not prohibitive there are no facilities for reaching them except by private conveyance.

Refused.

(j) That the cities of Boston, Cambridge, Chelsea and Somerville need these parks, and especially Boston, and that they have their use and benefit much more than all the rest of the district together.

Refused.

(k) That if the local conditions are to be considered, then this respondent should be relieved of any assessment whatever, or, at any rate, its present assessment materially reduced.

Refused.

Charles River Basin, Dam, etc.

(a) That Boston be ordered to pay the entire cost of the Boston Marginal Conduit.

Refused.

(b) That Cambridge be ordered to pay the entire cost of the Cambridge Marginal Conduit.

Refused.

(c) That Cambridge be ordered to pay the cost of Broad Canal.

Refused.

(d) That Cambridge be ordered to pay the cost of Lechmere Canal.

Refused.

(e) That Cambridge be ordered to pay the cost of dredging at the entrance to said canals and piling in the Basin on its side.

Refused.

(f) That the cost of elimination of the malarial mosquitoes be assessed on Boston, Cambridge, Newton and Watertown, jointly or to any of them.

Refused.

(g) That the cost of dredging the channel at Watertown be assessed to Newton and Watertown, either jointly or to either one of them.

Refused.

(h) That the cost of a suitable bridge, the removal of Craigie Bridge and the construction and maintenance of temporary

bridge would be approximately \$1,300,000, and in any event no less than \$1,000,000.

Refused. Covered by report.

(i) That the remaining balance of the cost of construction as outlined by the statutes be assessed not less than one-half to Boston, Cambridge, Newton and Watertown, jointly or severally, and the rest on the whole Metropolitan Parks District on the basis of the valuation.

Refused.

(j) That the inhabitants of Belmont do not need and do not use the Basin as a park or otherwise.

Refused.

(k) That the inhabitants of Belmont had ample facilities right at hand for fresh-water sports.

Granted.

(l) That Boston and Cambridge be assessed on account of maintenance what it would have cost them annually to maintain a "suitable bridge" and draw.

Refused.

(m) That Cambridge be assessed on account of maintenance the cost of keeping the canals and channels leading to them clear of ice and obstructions.

Refused.

(n) That the balance of maintenance expense be assessed on the whole Parks District on the valuation basis.

See report.

The city of Quincy made the following requests:—

1. That this Commission adopt, as a just and equitable rule of general application, the valuation theory.

Refused in terms. As to substance, see report.

2. That no allowance be made to any municipality on account of what it may have spent for parks or playgrounds, or on account of the number, location or size of the same.

Granted.

3. That the population of a municipality, or its proximity to a park or reservation, be not considered for the purpose of increasing what would otherwise be its share of the Metropolitan Parks expense.

Refused.

4. That the amount the city of Quincy would otherwise be required to pay under the valuation rule be reduced to a just and equitable extent, by giving her a reasonable allowance for the loss she has sustained in contributing so much of her area and taxable assets for the good of the Metropolitan Parks System.

Refused.

5. That any other community showing a case of equal merit or a similar loss receive similar treatment.

Refused.

6. The city of Quincy objects to the creation of "zones" for the purpose of making concession to communities that do not have any portion of the parks or reservations within their limits or near to them. Such a policy it believes and respectfully contends to be contrary to the whole spirit which conceived and has created, by the expenditure of an enormous amount of money, this great Metropolitan Parks System.

No request contained in statement.

7. If, notwithstanding Quincy's objections, any city or town is to be given in any degree credit for a local system of parks and playgrounds, or either, then Quincy asks that due credit be given to her for:—

(a) A complete system of local parks and playgrounds.

(b) Three-quarters of a mile shore front at the Merrymount Park, dedicated to the public use, and adaptable to public bathing and boating.

(c) A shore park and public bathhouse in Ward 2, Quincy Point.

(d) A water front of about 21 miles.

And that the assessment she would otherwise be called upon to pay be reduced accordingly.

No credit has been given to any city or town in the report, and therefore request is refused.

In the matter of the determination and award by the Commissioners appointed under St. 1899, c. 419, so far as the Charles River Basin is concerned, the city of Boston requested the Commissioners to rule "that the cost of the construction of the Basin, or of its maintenance, cannot be separately and independently apportioned from the remainder of the Parks System, but that the cost of construction must be included in the

cost of construction of the rest of the Parks System, and the cost of its maintenance must be included in the cost of maintenance of the other areas and reservations in the system.”

Refused.

Respectfully submitted,

ERNEST H. VAUGHAN.

CHARLES G. BANCROFT.

FRED S. HALL.

A true copy. Attest:

WALTER F. FREDERICK,

Clerk.

APPENDIX 2.

REPORT OF THE METROPOLITAN PARK COMMISSION IN
REGARD TO THE FEASIBILITY AND COST OF CONSTRUCT-
ING A SPEEDWAY ALONG OR NEAR THE MYSTIC RIVER,
REQUIRED BY CHAPTER 83 OF THE RESOLVES OF 1910.

To the Honorable Senate and House of Representatives.

The resolve, chapter 83 of the Resolves of 1910, under which this report is made, is as follows:—

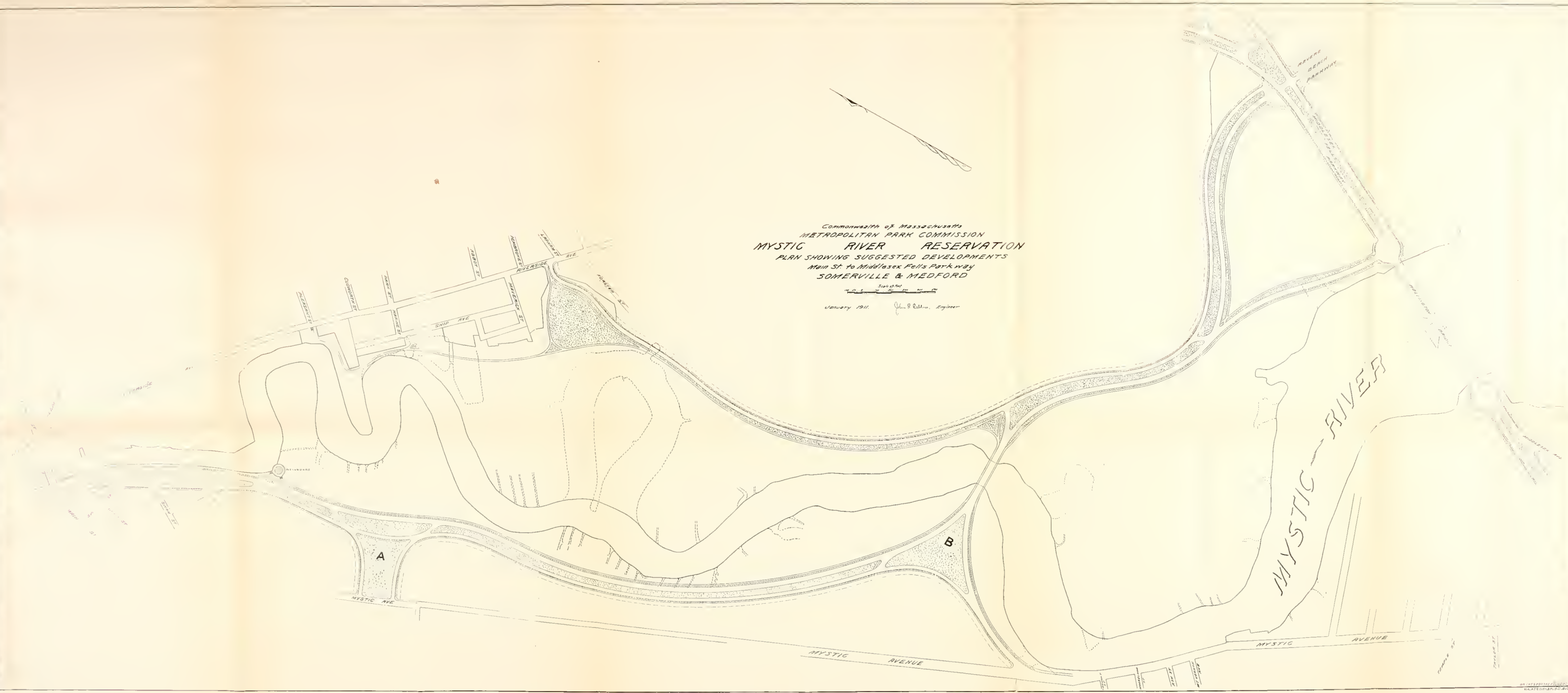
RESOLVE TO PROVIDE FOR AN INVESTIGATION AND REPORT AS TO THE
FEASIBILITY AND COST OF CONSTRUCTING A SPEEDWAY ALONG
OR NEAR THE MYSTIC RIVER.

Resolved, That the metropolitan park commission shall investigate and report in print to the general court, on or before the second Monday in January, nineteen hundred and eleven, as to the feasibility of providing a speedway for horses along or near Mystic river between Middlesex Fells parkway and Cradock bridge, by the use of roadways for which plans or studies have already been made, or by a new roadway upon land already held in public ownership and available for this purpose, together with an estimate of the least cost at which the speedway can be provided. [*Approved April 25, 1910.*]

Between Cradock Bridge and Middlesex Fells Parkway, at the point of connection with Revere Beach Parkway, lands are held in public ownership along Mystic River partly by this Board, partly by the city of Medford and partly by the Park Board of the city of Medford. The lands held by this Board and by the Park Board of the city of Medford were acquired at about the same time, in 1899, in pursuance of an understanding arrived at through conference and letters between the two boards, the gist of which was that lands bordering on Mystic River deemed necessary for a public reservation to protect the river and provide for driveways should be taken by this Board from Mystic Valley Parkway at High Street in Medford to the city lands just below Cradock Bridge, and paid for

Commonwealth of Massachusetts
METROPOLITAN PARK COMMISSION
MYSTIC RIVER RESERVATION
PLAN SHOWING SUGGESTED DEVELOPMENTS
Main St. to Middlesex Fells Parkway
SOMERVILLE & MEDFORD

Scale of Feet
0 100 200 300 400 500
January 1911. John R. Rollins, Engineer



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63. *Decapoda*
64. *Stomatopoda*
65. *Crustacea*
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out of the Metropolitan Parks Loans; and that the remaining lands for a reservation along the river and continuation of the driveways to a connection with Middlesex Fells Parkway and Revere Beach Parkway should be taken by the Park Board of Medford, and paid for out of its park loans. It was also part of the understanding that the takings should provide opportunity for certain additional driveways and for playgrounds for the city of Medford, and that the city of Medford should have a certain number of playgrounds, and that its Park Board should transfer the lands taken by it which would be required for the driveways to this Board whenever appropriations for their construction should be made by the Legislature.

A copy of the plan according to which the takings were made, both by this Board and by the Park Board of Medford, between Cradock Bridge and Middlesex Fells Parkway, is annexed to this report, and shows the driveways and playgrounds which were contemplated by the agreement.

This Board has constructed the driveways contemplated by its agreement between High Street and Cradock Bridge, but has never been provided with funds for construction below Cradock Bridge.

If the Park Board of the city of Medford and the city of Medford itself will transfer the lands on the southerly side of Mystic River to this Board, it will be feasible to construct a portion of the driveways shown upon the plan in a form suitable for use as a speedway. The Engineer of this Board has estimated that construction of the driveway nearest the river alone, shown on the plan as between the points marked A and B, with an entrance road from Mystic Avenue to the point A, a distance of approximately 4,400 feet, would cost approximately \$80,000; and if both the driveway nearest the river and the border driveway and intervening spaces and sidewalks were constructed for the same distance, the cost would be approximately \$180,000; and that if a single roadway, preferably the border road from the present termination of the Mystic River Driveway at Cradock Bridge to the point of beginning of the driveways above referred to at point A were constructed, the cost would be \$40,000 more; and that if an entrance from or connection with Mystic Avenue at point B should be provided, as shown by the plan, it would cost \$15,000 more.

Upon these facts it appears that it will be feasible to provide a speedway as contemplated by the resolve, provided the city of

Medford will consent to a transfer of the land for that purpose; but that the cost must be determined in accordance with the above estimates by the terms, short of its original agreement, upon which the city of Medford and the Park Board of the city of Medford will transfer the necessary lands; and that in any event the least cost at which the speedway can be provided will be \$80,000, to which a percentage for contingencies must be added.

All of which is respectfully submitted.

WILLIAM B. DE LAS CASAS.
EDWIN U. CURTIS.
DAVID N. SKILLINGS.
ELLERTON P. WHITNEY.
EVERETT C. BENTON.

JAN. 4, 1911.

APPENDIX 3.

REPORT AS TO THE ADVISABILITY AND COST OF A PARKWAY BETWEEN WEST ROXBURY PARKWAY IN THE CITY OF BOSTON AND THE TOWN OF WATERTOWN, REQUIRED BY CHAPTER 98 OF THE RESOLVES OF 1910.

To the Honorable Senate and House of Representatives.

The resolve, chapter 98 of the Resolves of 1910, under which this report is made, is as follows: —

RESOLVE DIRECTING THE METROPOLITAN PARK COMMISSION TO INVESTIGATE THE ADVISABILITY AND COST OF A PARKWAY BETWEEN WEST ROXBURY IN THE CITY OF BOSTON AND THE TOWN OF WATERTOWN.

Resolved, That the metropolitan park commission is hereby directed to investigate the advisability and the cost of acquiring land for the commonwealth and of constructing thereon a park and parkway from or near the West Roxbury parkway in the city of Boston, through Boston, Brookline, Newton and Watertown to Watertown square or some neighboring point. The commission shall report in print to the general court not later than the fifth day of January, nineteen hundred and eleven, and may expend out of the Metropolitan Parks Maintenance Fund a sum not exceeding two hundred dollars in carrying out the provisions of this resolve. [*Approved May 13, 1910.*]

In pursuance of the requirements of this resolve, the Metropolitan Park Commission has investigated the subject matter of the advisability and cost of a parkway between West Roxbury Parkway and the town of Watertown, through Boston, Brookline, Newton and Watertown to Watertown Square, or some neighboring point, by conference with city and town authorities and other citizens and experts, and by examination of the route available for such a parkway. The entire matter had already been very carefully studied by citizens interested in the matter, and a very feasible route laid out and fully described in a pamphlet, with accompanying maps, plans and photographic pic-

tures of incidental scenery, under the title, "Report on Proposed Park and Parkways from Charles River Reservation to West Roxbury Parkway, connecting the Northern and Southern Group of Metropolitan Parks. By Herbert J. Kellaway, Boston, Mass., 1908." Mr. Kellaway is a landscape architect of skill and professional standing, has lived for many years in the neighborhood of the proposed parkway, and is familiar with every part of the neighboring country. Careful verification of his report and plans have been made, and they are annexed to this report, not merely to be taken as representing the views of the petitioners, but because they are regarded as being as full and fair a presentation of the matter as could be made by any one selected by this Board for that purpose alone.

West Roxbury Parkway, which is named in the resolve as the starting point of the proposed parkway, is an unconstructed parkway acquired in 1894 under an agreement by which the city of Boston was to take the land from the Arnold Arboretum to Weld Street, and this Board was to take the land from Weld Street to the Stony Brook Reservation and then transfer its takings to the Park Board of the city of Boston to care for and use for the parkway whenever the city of Boston should provide the funds. When constructed, it will be the connecting parkway between the Boston Park System and Stony Brook Woods, Neponset River Parkway and Blue Hills Reservation. The beauty of the land acquired promises a very beautiful parkway, of an amplitude to permit the driveways to be located in the midst of park scenery which cannot be destroyed or affected by outside real estate operations. The proposed parkway would be almost a straight line from the Galen Street Bridge leading over Charles River at Watertown Square to the point in the West Roxbury Parkway near Weld Street where the latter parkway turns southerly to and around Bellevue Hill to its connection with the Stony Brook Reservation at Washington Street. On the northerly side of Galen Street several highways from Waltham, Belmont and Cambridge unite with the Charles River driveway of the Metropolitan Park System. On the southerly side of Galen Street Bridge highways from various parts of Newton and the cities and towns east and west unite. Galen Street Bridge is a new stone-faced concrete bridge, of substantial and attractive construction and of a width ample for use by all the roads and park drives which unite there. Beyond Galen Street Bridge the proposed parkway would start from the junction of California and

DIAGRAM OF THE PUBLIC OPEN SPACES OF THE BOSTON METROPOLITAN DISTRICT IN 1908.

OPEN SPACES HELD BY THE METROPOLITAN COMMISSION

OPEN SPACES HELD BY LOCAL AUTHORITIES



PROPOSED PARK AND PARKWAY CONNECTION

Prepared By
HERBERT J. KELLAWAY LANDSCAPE ARCHITECT
BOSTON MASS., MARCH 1908.

Watertown streets and run thence through comparatively unoccupied lands upon the border of an abandoned ice pond to and through Boyd Park, Jackson Road, Lewis Terrace and Cabot Park, which have already been acquired and constructed by the city of Newton. These parks and roads will furnish most of the land required for a formal parkway varied by occasional larger open spaces as far as Centre Street in Newton. Thence the land is open for a continuation of the formal parkway through similarly attractive estates, crossing Commonwealth Avenue to Beacon Street. From Beacon Street to West Roxbury Parkway the route lies almost continuously through beautiful woodland about Hammond's Pond and Putterham Meadows and in the rear of Brookline Country Club and Walnut Cemetery until it joins the West Roxbury Parkway lands. These lands have a growth of very good and at some points magnificent trees. They enclose Hammond's Pond, Lost Pond and other smaller ponds and brooks, and are varied and made picturesque by outcroppings of conglomerate, which is always attractive and in many places impressive. The vegetation is interesting and varied, and the general character of the woodland is unlike that of any other part of the Metropolitan Park System, and probably the finest of its kind to be found anywhere in the District. The distance from Watertown to West Roxbury Parkway is nearly 7 miles. The area of the land to be acquired for the parkway is approximately 500 acres, and the assessed value, as stated in the report of Mr. Kellaway, is approximately \$272,000, of which but a few thousand dollars is for buildings. The proposed parkway would be crossed by California Street, Watertown Street, Washington Street, Church Street, Cabot Street, Centre Street, Ward Street, Commonwealth Avenue, Beacon Street, Boylston Street, Heath Street, Hammond Street, Newton Street and Grove Street, and other important highways, in many of which electric car lines are running. It is also crossed by both the main line tracks and the Brookline Branch tracks of the Boston & Albany Railroad, and along its entire distance is within close proximity to important suburban villages and estates.

From careful observation while walking over the ground, and from the reports of Mr. Kellaway and of the Engineer of this Board, it appears that, in view of the relation of the proposed parkway to existing portions of the Metropolitan Park System and to the present development and probable future growth of the portions of Newton and Boston and Watertown and Brook-

line through which it would run, the parkway would be a very direct and valuable addition to the Metropolitan Park System, and that the opportunity is now ripe for securing the land which would make the proposed parkway so ample and attractive as to be in effect a continuous park or series of parks.

The Commission has no hesitancy, except that of consideration for the finances of the District, in recommending the acquirement of the land for this parkway at a cost which would probably be about \$500,000. The opportunity for acquiring the land is likely to be lost at any time, and would be looked back to as one of the great lost opportunities. The land if acquired will be a beautiful series of parks, in which development may for some time be confined to a few pieces of roadway according to the plan for the ultimate development of the entire parkway, and construction of paths and wood roads to make the beauty and attractiveness of other park-like sections available. The cost of maintenance under this treatment would be about that of Stony Brook, which is of about the same area. While thus very definitely expressing the hope that it may be found feasible to provide for acquiring this parkway, yet the Board contents itself with asking the Legislature to consider the matter in connection with its usual careful consideration of the ability of the District and State to bear the necessary increase of the loan indebtedness for Metropolitan Parks.

All of which is respectfully submitted.

WILLIAM B. DE LAS CASAS.
EDWIN U. CURTIS.
DAVID N. SKILLINGS.
ELLERTON P. WHITNEY.
EVERETT C. BENTON.

JAN. 4, 1911.



PLAN FOR
PROPOSED PARK AND PARKWAYS
—FROM—
CHARLES RIVER RESERVATION TO WEST ROXBURY PARKWAY
CONNECTING THE
NORTHERN AND SOUTHERN GROUP OF METROPOLITAN PARKS
SCALE
0 200 400 600 800 1000 1200 1400 1600 1800 2000 2200 2400 FEET
HERBERT J. KELLAWAY LANDSCAPE ARCHITECT
BOSTON MASS. MARCH 1908



APPENDIX.

To a Committee of Citizens of Brookline and Newton.

GENTLEMEN:—In response to your request, I herewith present a plan for parks and parkways to connect the northern and southern groups of Metropolitan Parks, making a connection from Watertown Square to West Roxbury Parkway. By looking at the map of the Metropolitan Park District, it will be seen that the acquisitions thus far made by the Metropolitan Park Commission have been largely to the north and south of the State House, and that, with the exception of a narrow strip of land along the Charles River, there have been no takings in the region lying west of the State House.

HIGHWAYS.

In the part of the District you have asked me to investigate, there is at present no continuous driving connection from Watertown through the thickly populated part of Newton to the upper part of Brookline, or in any of the region west of Boston leading to the great Metropolitan Park System. The only way for driving at present from the Charles River Reservation through Newton is over Galen Street, which is primarily a traffic street, as far as Nonantum Square, Newton, and from there over Centre Street, an old residential street with steep grades. From Newton Centre there is no direct connection to a large region undeveloped in the southerly part of Newton and the upper part of Brookline.

The main highways existing at present are radial from the city of Boston. Those passing through the upper part of Brookline and Newton are Boylston Street, Beacon Street, Commonwealth Avenue and Washington Street, with electric car lines on all except Beacon Street. These highways are largely used for traffic. In addition to these, we may reasonably expect that Newton Street will become in the future a main radial highway. Hammond Street, having been widened by the town of Brookline to the width of seventy-five feet, may ultimately be used for electric cars. It would then become a connecting link for traffic purposes through Newton to Commonwealth Avenue; but there exists the need for providing a way in which pleasure travel may be free from the annoyance of electric cars and the usual accompaniments of farm wagons, drays and other commercial vehicles.

PARKWAY CONNECTIONS.

The connections to the north from Watertown Square to Middlesex Fells Reservation and Revere Beach Reservation have been nearly secured¹ by the Metropolitan Park Commission, which will provide, when fully constructed, a pleasure drive for the whole distance.

To the south of Brookline lands have been secured which will furnish a connection to the Neponset River Reservation, Blue Hills Reservation and Quincy Shore Reservation. Lying east of Brookline is the well-developed system of Boston parks, leading through Arnold Arboretum, Franklin Park to Marine Park, and through Jamaica Park, Riverway, Back Bay Fens to Commonwealth Avenue.

By reference to the general map it is readily seen that there is need for some public open space and parkway connection in this part of the District, which will become in the future densely populated. The proposed improvements lie between a radius drawn from the State House of from 5 to 7 miles. Of the route proposed and the lands to be acquired, a large portion of the way is in public holding. The idea of a parkway through the route shown was suggested in part on a plan for parks and parkways for the upper part of Brookline made by Olmsted, Olmsted & Eliot for a committee of citizens of Brookline in the year 1894. One of the routes shown upon that map was in connection with the existing West Roxbury Parkway through the Brookline Park Reservation, since acquired, and by way of Hammond's Pond to Chestnut Hill Reservoir *via* Lake Street, leading through to the Charles River Reservation near the Brighton Abattoir, and a connection to the southwest from Newton Street followed the line of Saw Mill Brook to the Charles River near the Brookline Pumping Station.

Owing to the improvements that have been made through the region from Hammond's Pond to Brighton in the time that has elapsed, it does not seem feasible to carry out this scheme; but a way has been found by connecting existing holdings of both municipalities in such a manner that, of over 6 miles of parkway proposed, about three-eighths of the total distance is under public control.

PUBLIC HOLDINGS.

The Brookline Park Commission has secured about 120 acres between the Brookline Country Club and Hammond Street. This area is for a large part swampy, with very fine wooded ledgy knolls covered with hemlock, pine and other native deciduous trees.

In Newton, Cabot Park has been acquired by the city of Newton, and has been developed as a playground with a drive along its east-

¹ Except a portion from Fresh Pond Park to Mystic River, along Alewife Brook.

erly margin. This driveway is carried over the Boston & Albany Railroad by a bridge, and continues in a narrow parkway secured by the city of Newton for drainage purposes from Washington Street to Pearl Street. From Pearl Street to Morse Street, Watertown, the city of Newton has acquired and developed Boyd Park with a driveway along its westerly boundary.

The West Roxbury Parkway was acquired by the Metropolitan Park Commission by agreement, in 1894, and transferred to the Boston Park Commission for their care, control and construction. Up to the present time no construction has been done on this Parkway.

THE PLAN.

In studying the plan for the proposed parks and parkways, an effort has been made to secure lands that are free from buildings, will permit of easy grades and will give a direct and an artistic driving connection; and to take only as much land as is needed to preserve the scenery for park purposes and to allow for the construction of a drive in the future. An effort has been made to leave the abutting land in such a condition that it will be available for building purposes. It is not intended that a drive shall be immediately constructed upon the boundary; but it is shown that the ideas of future development may be clearly understood, and is on such well-studied lines that takings may be made and the land held until the public demands construction. For convenience of description and estimate, the route has been divided into sections, beginning at the West Roxbury Parkway.

Section A. — From West Roxbury Parkway to Brookline Park Reservation.

At Newton Street a strip of land varying in width is shown, with a main driveway on the westerly side and a narrower one on the easterly side, the widths of the drives and accompanying walks to be the same as adopted by the Metropolitan Park Commission, — 9-foot sidewalk, 6-foot tree-planting space, 36-foot roadway; and on the other side a 6-foot sidewalk, 5-foot tree-planting space, 26-foot roadway; and a minimum building limit of 25 feet is shown throughout. This portion of the route is through a very picturesque region; it follows a brook valley, and includes ledges, streams and the accompanying foliage, which are all well adapted for park purposes. If secured immediately, and the trees are preserved, a growth will have been secured which would take years to obtain by the ordinary methods of planting. There are two ponds in this area, one of which is formed by a dam, and the other a natural pond at the base of some very picturesque hemlock-covered ledges. South Street has a very steep grade, is very narrow, and should be abandoned when

the driveway is constructed. No electric cars should be given a location between the roadways; it should be preserved for pedestrians to enjoy.

Section B.—From Newton Street to Hammond Street.

The park controlled by the Brookline Park Commission has been partially drained by the Brookline town authorities, and will probably be developed by simple park treatment. A connecting drive is suggested along the northerly and easterly margin of the Reservation, which would not in any way injure the park, and would serve as a communication for the Brookline Country Club. By building this drive, views may be had of this beautiful region when developed, and the remainder of the area can remain free from drives.

Section C.—Hammond Street and Newton Street to Brookline and Newton Line.

To the west of Hammond Street there exists a large area known as Saw Mill Brook Meadow, which is wet, and filled with birches, red maples and other swamp growths. From the meadow to the Newton-Brookline line is a rocky hill covered with hard wood, such as oak, chestnut, etc., and not readily available for building purposes. At the easterly end of this region, near Newton Street, there exists a group of pines which form what will become a background for a beautiful picture, if this meadow is developed in a simple, park-like manner. In this meadow are what might be called two islands, or two rocky knolls, covered with trees. Hidden in a swamp growth of trees is a remarkable and charming pond, known as Lost Pond, which is almost inaccessible, and surrounded by a natural growth of hemlock, pine and white cedar; and the margin of the pond is covered with a growth of shrubs, some of which are rare to this region. The land about this portion is low, very wet, and practically useless for building purposes without large expenditure of money. A connecting road is shown dotted on the plan from Newton Street, near the Brookline line, to Florence Street. It follows natural depressions in the topography, and the grades will be very light.

A connecting drive from Brookline Park Reservation is shown at the base of tree-covered ledges between Hammond Street and Woodland Road, and will command views of Saw Mill Meadow, the large pines located near Newton Street, and the rocky hill at the south of the Meadow. It is intended that a wide restriction shall be placed upon the land adjacent to this driveway, to preserve the ledges from being blasted, the trees from being cut, and to provide that no houses may protrude too far into the view. The fee of this land will remain in the hands of the abutters, this restriction being made for the preservation of the scenery about Saw Mill Meadow.

Section D. — Brookline-Newton Line to Beacon Street.

In the region between the Brookline line and Boylston Street a large portion of the area is swampy land. There are a few houses which have been built upon peninsulas of land which protrude into the swamp land. Some of these it will be necessary to include in the proposed park scheme, in order to secure proper connection for a boundary road, the control of the drainage areas and the preservation of the park scenery. It is desirable to include a low piece of land lying between Woodland Road and Heath Street, that a plantation may be made to eventually obliterate any view of Holyhood Cemetery from the Parkway.

The region from Boylston Street to the Boston & Albany Railroad is remarkably picturesque, and has been preserved largely in the hands of one owner for years against the depredations of lumber men or fires. The ledges and the growths about them are as magnificent as any in the Metropolitan Park System. Hammond's Pond, which is about 10 feet in depth, and lies at the base of these ledges, is remarkable in that it has remained in its native state, with the natural growths of trees and bushes about it; and, with the exception of the Boston Ice Company and two houses on the north, there has been no occupation, as is usual around ponds of this character so near a district as thickly populated as Brookline. The pond might be called a summit pond, with streams flowing both ways. The margin of the pond is low and wet, and is covered largely by a swamp growth of woods. Hammond's Pond is a great pond. It will serve as a means of amusement for a large population, and will be used almost constantly, as it is contiguous to the Boylston Street electric cars. It is not intended that this region shall be developed, as is usual in park areas, with a large number of drives, but it shall remain as far as practicable in its native state, with park paths built for better fire protection and for easy communication to the various points of interest. Restrictions are indicated upon the plan on the land of the Boston Ice Company and the land now occupied at the north of Hammond's Pond.

From Woodland Road to Hammond's Pond a drive is shown to follow the low ground, and, by filling slightly on the margin of Hammond's Pond, a drive may be obtained on easy grades which will give a view of Hammond's Pond and remarkably picturesque ledges with fine trees at their base. Under no circumstances should the drive be carried close to the ledges, as it would destroy a very fine growth of old trees, and thus remove a part of the picturesque character that now exists. On the southerly part of this area is shown a proposed boundary road which will be an easy driving line, and includes the least possible amount of land that it is advisable to take for the preservation of the park scenery. The lands remaining will be available for building purposes.

The boundary road and the park drive are brought together and shown to be carried over the Boston & Albany Railroad at a point about half way between Chestnut Hill Station and Newton Centre Station, where there is a natural foundation for a bridge in a ledge excavation. Near this bridge a future station is suggested. From the railroad to Beacon Street there is a region of undeveloped low, wet land, a portion of which has been used for quarrying purposes. It is desirable to carry the driveway through, leading both ways to Beacon Street, and include as much of the low land and the rocky margin as is needed to preserve the parklike character. Beside the railroad location from this waste land to Glen Avenue is a low, marshy region, with a very beautiful series of ledges on the margin, covered with a fine growth of trees. It would be well to include this in the taking, that a walk might be provided leading to Glen Avenue, which would be used by people living in the vicinity to the south of the railroad. This area should also be controlled by public authorities, as a means of future drainage. There now exists a sewer location and a surface drain. The natural flow of the brook is under the railroad and beneath some commercial establishments. A restriction should be placed upon these ledges that will for all time remove any fear of their being destroyed by the establishment of a quarry, which would be detrimental to any park reservation.

Section E.—From Beacon Street to Commonwealth Avenue.

From Beacon Street to Commonwealth Avenue the parkway uses roads that have been partially developed, and will need merely a slight additional widening to secure a width of 70 feet, which is the width adopted in similar instances by the Metropolitan Park Commission, a type of which may be seen at Fresh Pond Parkway in Cambridge. The 70 feet of width of parkway is divided into a 9-foot sidewalk, a 6-foot tree-planting space, a 40-foot roadway, a 6-foot tree-planting space and a 9-foot sidewalk. A restriction should be placed upon the tree-covered ledges.

Section F.—From Commonwealth Avenue to Cabot Park.

From Commonwealth Avenue the line will pass through unoccupied lands, open and largely undeveloped, to Cotton Street, by means of the 70 feet width. From Cotton Street to Cabot Street a varying width should be secured, to include the brook and fine trees accompanying it about the old cemetery. From Colby Street to Cabot Street the land is practically worthless for building purposes, there being a deep ravine with the remains of a series of dams, and for a portion of the way very swampy low ground. An alternative route is shown, which would not afford an interesting type of development.

Section G. — From Cabot Street to Morse Street.

Cabot Park, Lewis Terrace, Jackson Road and Boyd Park have been secured and developed by the city of Newton. A bridge is built over the Boston & Albany Railroad, and a drive is constructed and in use from Cabot Street to Morse Street; and a few small parcels of land are indicated, that should be taken for a future width of 70 feet.

Section H. — From Morse Street to Watertown Square.

Between Morse Street and Watertown Square exists an abandoned ice and mill pond, and unoccupied land on the margin of the pond. By securing this small portion, the parkway project will be completed.

The distance of these sections, with the areas and assessed valuation of land suggested to be taken, are as follows: —

SECTIONS.	Distance (Linear Feet).	Area (Acres).	Assessed Valuation.
Section A,	5,100	41.69	\$33,123 34
Section B,	4,400	-	-
Section C,	3,500	196.36	119,724 65
Section D,	5,900	230.02	71,974 18
Section E,	1,800	.84	1,945 38
Section F,	6,800	28.04	36,763 34
Section G,	5,900	.69	2,605 33
Section H,	2,100	4.63	5,187 15
	35,700	502.27	\$271,323 37

The cost of this land, with the owners' names, is shown by the appended table; reference by number is made to the plan of individual ownership.

Of this distance, 13,150 feet is through parks and over existing streets, leaving a distance to be acquired of 22,550 feet.

The photographs accompanying show the character of the country through which the proposed park is designed, and their locations are shown by an arrow and letter upon the plan.

If the land for this parkway is secured, it will permit of the construction of a drive connection on easy lines and grades and through a region that is largely undeveloped. It will afford a communication not only to the citizens of Brookline and Newton, but to all the surrounding towns and cities of the Metropolitan District.

The remarkable fact about this whole area is that so few houses are involved, — but five in the whole route. The grades on which a drive may be built are very easy, being nearly level for a large part of the way, and need never be so steep as 5 feet rise in 100. The engineering problems of construction and drainage are not difficult,

and for a large part of the way material may be secured near the work. In taking this land, the right to slope should be included in the agreement in settlement.

The beauty of a park or parkway is in its diversity of topography, its tree growths, and the charm of new scenes throughout its length. In the route proposed, monotony is reduced to a minimum, there being but a very short portion of the formal type. From a rugged region of conglomerate ledges, tree-covered, to open swamps and meadows, beside ponds and streams, through glacial ravines, the way is well suited for the purpose, and will be a source of pleasure for all generations.

Respectfully submitted,

HERBERT J. KELLAWAY,

Landscape Architect.

BOSTON, MASS., April 2, 1908.

APPENDIX 4.

REPORT OF THE METROPOLITAN PARK COMMISSION UPON
THE RESULTS OF ITS INVESTIGATION AS TO THE AD-
VISABILITY OF IMPROVING THE SANITARY CONDITION
OF CHARLES RIVER, DIRECTED BY CHAPTER 101 OF
THE RESOLVES OF 1910.

The resolve, chapter 101 of the Resolves of 1910, under which this report is made, is as follows:—

RESOLVE TO PROVIDE FOR AN INVESTIGATION AND REPORT AS TO THE
ADVISABILITY OF IMPROVING THE SANITARY CONDITION OF THE
CHARLES RIVER RESERVATION.

Resolved, That the metropolitan park commission is hereby requested to investigate and report in print to the next general court, on or before the second Saturday of January, nineteen hundred and eleven, upon the subject-matter of the petitions of George Hutchinson, mayor of Newton, and Edward A. Walker, mayor of Waltham, with accompanying bill, House, Number three hundred and forty-three, with such recommendations as the board may deem proper.
[*Approved May 26, 1910.*]

The petitions of the mayor of Newton and of the mayor of Waltham were accompanied by House Bill, No. 343, of which the language, so far as necessary to explain the substance of the resolve directing this report, was as follows:—

SECTION 1. The metropolitan park commission is hereby authorized to do such dredging and other work in and about Charles river between Moody street in the city of Waltham and Concord street in the city of Newton and such filling and other work upon lands abutting upon or near said section of said river as said commission may deem necessary in order to restore said river to a

sanitary and healthful condition. . . . and may also take by eminent domain, or acquire by agreement or otherwise, such rights or easements as said commission may deem necessary to enable it to do the dredging, filling and other work required by this act, . . .

While the investigation and report required by this resolve is limited to the portion of Charles River between Moody Street in Waltham and Concord Street in Newton, the Commission has, as incident to that investigation, extended its investigation in some measure to the entire portion of Charles River between the dam near Galen Street in Watertown and the furthestmost point of its holdings at Newton Upper Falls. It has been further limited, however, by the length of time within which it might prosecute its investigations, and by the fact that no appropriation accompanied the resolve directing the investigation.

As a means of beginning its investigation, the Commission addressed inquiry to the State Board of Health and to the authorities of the cities of Waltham and Newton and the towns of Watertown, Wellesley and Weston, asking for such opinions and information in regard to the subject matter of the resolve as they might have in their possession, but received no definite data other than opinions based upon unrecorded observations and existing conditions.

Later in the year the river was inspected by the Board, in company with representatives of various branches of government in most of the above cities and towns, and still later a conference of these representatives was invited and held at the office of the Board in Boston. Conference has also been held with the treasurer of the Boston Manufacturing Company, which owns the largest portion of the flowage rights in the river above Moody Street. Preliminary surveys have also been made, with a view to determining the changes that may be accompanied by dredging and filling in compensating quantities, together with estimates thereof; and careful consideration has been given to the report in regard to the improvement of Charles River from the line between Watertown and Waltham to Mother Brook, made jointly with the State Board of Health in May, 1896, under chapter 529 of the Acts of 1894, and the data therein and other data subsequently collected in connection with unsuccessful efforts made at that time to reach an agreement with the Boston Manufacturing Company for fixing a higher level below which its flash boards might be removed.

From these investigations and conferences, and with the limited data which it has thus far been able to gather, the Board has reached only preliminary conclusions, and its report must therefore be only in the nature of a partial report.

These preliminary conclusions are as follows:—

Whether viewed as to the effect of the sanitary condition of the river and the health of the public in cities and towns along the river, or as to the convenience and health of those who use the river for recreation, it appears that the changes of water level which take place each year in Charles River are unsatisfactory and seemingly dangerous. The only facts which need to be stated to warrant this conclusion are the apparent ones of the alternate flooding and exposing of mud flats; the gradual increase in size of these areas, as vegetation forms upon them; the obstruction of the channel, to the extent of leaving only small ponds in some portions of the river during the dry season of each year; the increase of mosquitoes, which annoy and probably disseminate disease; and the odors, which, whether injurious to health or not, are very obnoxious. In all these respects the condition of the river appears to have grown worse in the past few years.

These bad conditions extend over the entire portion of the river between the lower dam and Watertown and Newton Upper Falls, and are aggravated by more or less impure or unsightly discharges from mills and drains and street-wash outlets into the river.

Dredging and filling will improve the conditions, but will not wholly remedy them unless extended along the entire river according to a plan prepared to provide for deep channels with banks free from mud and vegetation, together with some regulation against artificial lowering of the water level at certain seasons of the year, and against befouling the river by noxious discharges into it.

Present conditions may be improved, however, by a limited amount of dredging and filling. The authorities of the cities and towns along the river are in favor of beginning this improvement by immediate work to remove the most objectionable flats, and to deepen and open channels which will drain the stagnant pools left in the river bed when, during dry seasons of the year, the river is so low that water does not come over the dams; they are also in favor of immediate authority being given to regulate discharges into the river; and of an annual appro-

priation as part of the maintenance appropriations for the next few years; and of extending the time of final report by this Board upon the whole matter, so as to enable it to make further investigations and surveys, with a view to reaching some agreement by which artificial withdrawal and cutting off of the water for mill and water-supply purposes may be regulated. The representative of the Boston Manufacturing Company has expressed a readiness to endeavor to reach agreement in regard to these matters, so far as they concern that property.

The Board approves of the method of procedure outlined above as being in accordance with the wishes of the local authorities of the cities and towns along the river, and accordingly recommends action for that purpose; and has suggested, as required by law, a special item for its maintenance appropriations for the year 1911 of \$25,000 with which to begin work.

All of which is respectfully submitted.

WILLIAM B. DE LAS CASAS.
EDWIN U. CURTIS.
DAVID N. SKILLINGS.
ELLERTON P. WHITNEY.
EVERETT C. BENTON.

JAN. 4, 1911.

APPENDIX 5.

REPORT OF THE METROPOLITAN PARK COMMISSION AS TO
THE COST AND ADVISABILITY OF COMPLETING THE
METROPOLITAN BOULEVARD IN THE CITY OF QUINCY,
AS REQUIRED BY CHAPTER 130 OF THE RESOLVES OF
1910.

To the Honorable Senate and House of Representatives.

The resolve, chapter 130 of the Resolves of 1910, under which this report is made, is as follows:—

RESOLVE TO PROVIDE FOR A REPORT BY THE METROPOLITAN PARK
COMMISSION AS TO THE COST AND ADVISABILITY OF COMPLET-
ING THE METROPOLITAN BOULEVARD IN THE CITY OF QUINCY.

Resolved, That the metropolitan park commission is hereby directed to make estimates of the cost of completing the metropolitan boulevard in the city of Quincy between the present northerly terminus of the Furnace Brook parkway and the present southerly terminus of the Quincy Shore reservation, and also to consider the advisability of the immediate construction of said boulevard. The commission shall report in print to the next general court not later than the second Saturday in January. [*Approved June 10, 1910.*]

Furnace Brook Parkway is planned to connect the driveway along Quincy Shore with Blue Hills Reservation and driveways, and, passing through the city of Quincy, to provide approaches to these reservations and connections with the city streets. Most of the land for this parkway was secured several years since, at a time when it was supposed that a portion of Merrymount Park belonging to the city of Quincy might be utilized for a portion of the Parkway, and that such use would be acceptable to the park authorities of that city. Subsequently, the Quincy Park Board decided that all of the park would be required for local playgrounds, and that no portion of it might be used for the Parkway. Studies for a new location for the easterly portion of the Parkway were therefore prepared, and efforts were made

to secure the necessary land by purchase and agreement as to price, so that the uncertainties of cost under a taking might be avoided. These efforts have thus far failed. For the cost of the land necessary to complete this Parkway, therefore, estimate only can be submitted, and the Board estimates the cost of land necessary for completion as likely to be \$25,000. If the land is to be secured, an appropriation for the purpose to the amount stated must be made, because all appropriations hitherto made for Metropolitan Parkways, Metropolitan Parks Loan Series II., have been expended except a small balance, which it is estimated will be required for outstanding claims for land and for completion of contracts.

Construction of the Parkway from Adams Street to Blue Hills Reservation was completed in December, 1906, and this portion of the Parkway was then opened and has since been in use. Construction of the remaining portions of the Parkway is estimated by the Engineer of the Board as likely to cost as follows:—

Adams Street to Newport Avenue,	\$25,000
Newport Avenue to Hancock Street, including a bridge to carry electric railway tracks and the tracks of the New York, New Haven & Hartford Railroad,	75,000
Hancock Street to Quincy Shore Reservation, including bridges over Black's Creek,	215,000

To this amount there ought to be added \$30,000 to complete the approach to the driveway leading to the northerly end of Quincy Shore, where completion has been arrested both by lack of funds and by lack of an agreement with the New York, New Haven & Hartford Railroad Company as to the proper amount of contribution towards the new bridge necessary to replace the Atlantic Street Bridge. The amount of \$30,000 is made up of \$10,000 which has now been agreed upon as a proper contribution toward the bridge, and \$20,000 for construction of the Parkway approaches; that is, for construction a total of \$345,000, and for land \$25,000, — a total of \$370,000.

The Board is required by the resolve to report as to the advisability of completing this Parkway; but, as this is largely a question of the advisability of adding the cost above indicated to the loan indebtedness of the District for Metropolitan Parkways, the Board does so with the hesitation which it has mani-



Commonwealth of Massachusetts Metropolitan Park Commission

**QUINCY SHORE RESERVATION
—AND—
FURNACE BROOK PARKWAY
NEPONSET RIVER TO BLUE HILLS RESERVATION
QUINCY**

SCALE
0 100 200 300 400 500 600 700 800 900 1000

John R. Ridd, Engineer



fested for some years in regard to further additions to the loans, and thereby to the tax obligations of the District. This hesitation is in regard to the amount required for construction only, and not in regard to the amount required for completing the land takings, which the Board deems to be of immediate importance. Reasons for thinking that immediate acquisition of the land is important are found in the fact that the Parkway is a very necessary portion of the Metropolitan Park System, and must therefore be completed sooner or later; and in the fact that the cost of the land may at any time be increased by real estate developments, such as may be expected to take place at any time in so large and growing a city as Quincy.

With the land acquired for the entire Parkway, construction will follow as soon as natural pride in completing work entered upon or necessities of public convenience warrant the necessary further appropriation. This Board has, of course, a natural desire to see all the parkways of the Metropolitan Park System completed at an early date, and believes that public convenience will be served by their completion. Its hesitancy as to recommending immediate construction is merely hesitancy as to how far the District is able to stand a further increase of District indebtedness. Decision as to this point, however, seems to be a matter for the Legislature and the District; and the duty of the Board under the resolve seems to be merely that of stating the facts, in order that the Legislature may act upon full knowledge of the cost and probable usefulness in relation to cost of this Parkway and of its various parts.

The completed portion of the Parkway from Adams Street to the Blue Hills provides adequate approach to that reservation from a point which is easily accessible. As an approach to the Blue Hills it would be improved by extension to Quincy Shore only to the extent to which it would facilitate pleasure travel from Boston by the Quincy Shore Driveway, and that seems, under existing conditions, to be very little. From Adams Street to Quincy Shore the land for an extension of Furnace Brook Parkway has been acquired for nearly the entire distance, as already indicated; but construction has been entered upon only to the extent of subgrading for a distance of about 1,000 feet from Adams Street to the land formerly a part, and still in appearance a part, of the historic President Adams estate. Between Adams Street and Hancock Street the location for the Parkway is almost parallel with Adams Street; and the cost of

complete construction will be very heavy, because of the bridges required for carrying the tracks of the street railway and of the railroad. Adams Street, on the other hand, is a wide and very beautiful street as far as the railroad bridge, at which point it joins Bridge Street about 500 feet from the Dorothy Q. house on Hancock Street, which is a part of the land acquired for the Parkway. As far as Hancock Street, therefore, the existing streets provide a route for pleasure travel which is not unreasonably inconvenient. The Parkway would be a more direct and comfortable connection, but cannot be said to be of present highest necessity.

From Hancock Street to the southerly end of Quincy Shore Driveway no direct or adequate road exists, so that the public are seriously inconvenienced in trying to reach the shore, and the beautiful Quincy Shore Driveway and Beach are of far less use and satisfaction to the public than they ought to be. Incidentally, much land along the line of this part of the Parkway is kept out of use for dwellings, and the city of Quincy loses the gain in taxable values which would result from construction of the Parkway.

Upon all these facts the Board is of the opinion that, while they would welcome the authority and appropriation necessary to complete the Parkway for the entire distance, there is but slight present necessity for constructing the portion between Adams Street and Hancock Street, but very great necessity for immediate acquisition of land and completion of construction from Hancock Street to Quincy Shore Reservation. The cost of land and construction for the portion from Hancock Street to Quincy Shore Reservation, included in the estimates above stated, together with an allowance for contingencies, is \$240,000.

All of which is respectfully submitted.

WILLIAM B. DE LAS CASAS.
EDWIN U. CURTIS.
DAVID N. SKILLINGS.
ELLERTON P. WHITNEY.
EVERETT C. BENTON.



